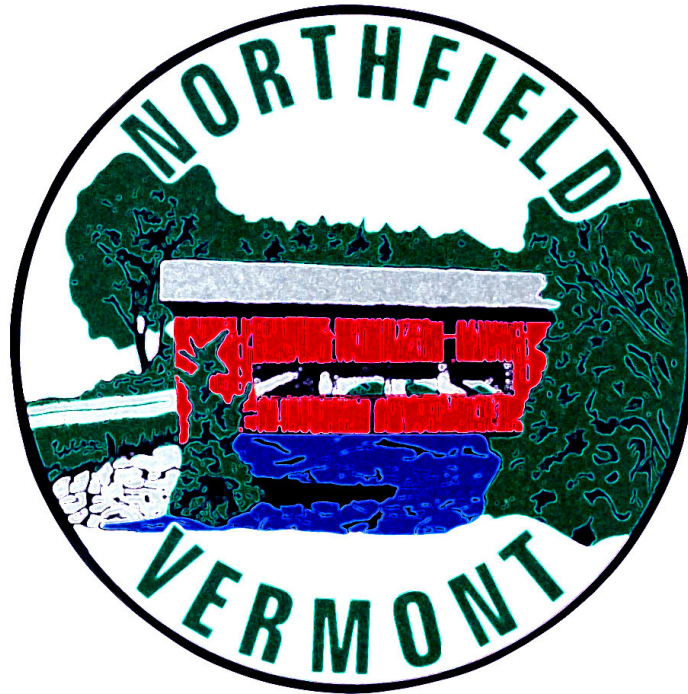


# Municipal Plan



**Approved by the  
Northfield Planning Commission  
August 18, 2003**

**Approved by the  
Northfield Boards of  
Town Selectmen and Village Trustees  
June 14, 2004**

**Prepared by:  
Northfield Planning Commission**

**With the assistance of:  
Burnt Rock Inc.  
ASSOCIATES IN COMMUNITY PLANNING**



# Northfield Municipal Plan

## Planning Commission Proposal – August 18, 2003

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# **CHAPTER 1. INTRODUCTION**

## ***1.1 What is the Northfield Municipal Plan?***

The Northfield Plan is a comprehensive long-range guide to the future of both the Town and Village of Northfield. This plan builds upon – and expands – the previous municipal plan adopted in 2000. The plan is intended to:

- Identify significant trends that have shaped Northfield's rich and varied history;
- Document current conditions regarding a variety of topics, including housing, transportation, the local economy, community facilities and services, and land use;
- Predict, to the extent practical, the trends that will affect change in the future; and
- Define the goals, policies, and implementation strategies for addressing community change in a way that will benefit current and future generations of Northfield residents.

## ***1.2 Consistency with Vermont Statute***

The Northfield Plan was prepared by the Northfield Planning Commission under the authority of 24 VSA, Chapter 117, The Vermont Municipal and Regional Planning Act (the "Act"). While towns are not required to adopt a plan, those that do must include specific elements required in the Act ('4382). This plan includes all required elements. This plan also addresses the twelve general state planning goals also listed in the Act ('4302). Although the plan is consistent with these goals, the background information, goals, and policies presented throughout the document were carefully prepared to meet the unique conditions and needs of the Town of Northfield.

## ***1.3 Regional Coordination***

Due to its geography, it makes sense for Northfield to work with adjacent communities to better serve its citizens – especially Roxbury and Berlin and those located along the Route 12 corridor in the Dog River Valley. Northfield cooperates with neighboring communities to provide education, emergency services and services for families, youth, and seniors. That day-to-day cooperation is less common – and less practical – with neighboring Waitsfield and Warren, which are separated by the Northfield Range to the west, and Williamstown which is separated by Paine Mountain and the I-89 corridor to the east.

Despite physical and geographic barriers, Northfield also participates in several regional organizations to address such issues of local concern as solid waste management, transportation and transit service, and a variety of social service and economic development functions. Nothing in this plan anticipates scaling back participation in any of these regional organizations or severing existing inter-municipal arrangements with neighboring towns.

Compatibility with neighboring towns is particularly important with regard to land use, where incompatible policies could result in conflicting development activities and land uses along town boundaries. Northfield's land use plan calls for agriculture, forestry, low to moderate density residential development and very limited non-residential uses along the boundaries with Roxbury, Waitsfield, Moretown, Williamston and most of Berlin. A portion of the shared boundary with Berlin – adjacent to historic Northfield Falls – allows a greater mix of uses and higher densities befitting the traditional settlement pattern of this historic growth center. These uses and densities are not incompatible with those allowed in adjacent towns which have adopted zoning, although both Williamstown and Roxbury have not implemented their respective land use plans through development regulations.

In addition to land use, a brief review of neighboring municipal plans does not reveal any notable incompatibility of plan goals or policies. Likewise, no areas of incompatibility between this plan and the Central Vermont Regional Plan have been identified. Thus, it is the position of Northfield that this plan is compatible with all of the adopted plans of neighboring communities and the region.

## **1.4 Planning Process**

In some respects, the preparation of this plan was a direct outgrowth of the Northfield Community Visit conducted by the Vermont Council on Rural Development in association with several state and regional agencies. This visit involved a series of community meetings held between November 2001 and January 2002 that involved dozens of community residents and municipal officials. The key community priorities outlined over the course of that process were carried forward into this document. An overview of the community visit is available in a Final Report dated January 2002.

In addition, the Planning Commission circulated early draft chapters of this document to a variety of interest groups and potential stakeholders to solicit comments on specific issues of likely interest. Three public informational meetings were also held to address housing concerns and community and economic development strategies.

The plan also benefited from a variety of issue-specific planning and development projects that have been undertaken by the community in recent years (e.g., Downtown Study, Gray Building Feasibility Study). Those efforts are cited in appropriate locations of the draft.

Finally, through a Vermont Municipal Planning Grant secured by the Planning Commission, the Commission hired the services of Burnt Rock Inc., Associates in Community Planning, of Waitsfield who assisted with all aspects of the plan update.



## A BRIEF HISTORY OF NORTHFIELD

From 1785 through the 1820s, largely Yankees from Connecticut, Massachusetts, and the older Vermont towns settled Northfield. Next to arrive were the Irish, attracted in the 1840's by jobs on the railroad. The Welsh arrived after the Irish to work in the slate quarries in the 1850's and 1860's. Stonework also brought the next wave. Starting about 1890, Italians, Spaniards, and Scots joined the workforce in the granite sheds. From the 1880's onward, Canadians of French descent came seeking opportunity, many buying up hill farms abandoned in the decades after the Civil War.

The years from 1785 to 1825 saw the development of Northfield's four villages. The first settlement was on East Hill (now Mill Hill), close by Elijah Paine's grist and sawmills. As the population grew, boundaries crept up the hill and northward along Route 12. Clusters of houses became villages, each with its own personality and name: South Village, Center Village, Factory Village, and the Falls.

First to have a distinct identity was **South Village**, which had numerous small businesses and manufacturing operations through the nineteenth century. Next was **Center Village**, where the first post office, town clerk's office, and churches were established, and which for many years was the social and political center of town. After the Center came Factory Village (the present Village of Northfield) named for the woolen mill located there. Last to develop was **Northfield Falls**, and by the late 1820's it, too, was a thriving community.

With the arrival of the railroad in the 1840's, Factory Village and Depot Square increasingly became the hub of local activity. Residents there began to demand lighted streets, sidewalks, fire and police protection, and they then petitioned the legislature to establish a separate Village of Northfield. The Village of Northfield was incorporated November 14, 1855.

Over the next fifty years, village residents voted taxes on themselves for a variety of services. Sidewalks were laid down, the **water department** was established and the first **electric plant** was built (both in 1895), and the first sewer lines were laid (1901-1904). Around 1900 the **police department** was set up, and the two independent **fire companies**, which existed from the 1860's, came under village control.

The price of such amenities was high; consequently, as they were increasingly needed outside the village, police, and fire services were taken over by the town. The town and village **highway departments** were supported by taxes levied separately on the grand lists of the village and town.

Once settlements were established, people turned their attention to making a living. Of necessity, almost everyone was a farmer first, and most lived by barter (goods and services were paid for with other goods and services). Eventually people needed hard cash, and it was this quest for individual and collective economic security that has been the paramount concern in Northfield for two centuries.

Until about 1814, residents made potash on their farms and sent it to mills in America and abroad which used it for everything from finishing wool cloth to making glass. About 1812, as the demand for potash was waning, Elijah Paine built a huge woolen mill on the site of the now closed Cetrangolo Finishing works (which closed in 1999). Paine's woolen mill employed between 175 and 200 workers and was for years the town's largest employer.

When wool prices declined in the 1840's, Elijah Paine's son Charles came to the rescue. As President of the Vermont Central Railroad, Charles Paine pushed the line from Windsor, Vermont to Burlington, finishing construction on the last day of 1849, and locating the railroad's headquarters in Northfield. For fifteen years the Vermont Central Railroad meant prestige for Northfield and prosperity for its citizens – hundreds worked for the line.

In 1852, Paine lost control of his railroad. Over the next decade the new owners gradually moved operations to St. Albans. John Gregory Smith, the new president, said he would “make the grass grow in the streets of Northfield.” He very nearly succeeded. The town’s population, one of the largest in Vermont at the time, dropped precipitously and over fifty houses stood vacant. It took 25 years to recover from the loss.

Slate quarrying and finishing, which started early in the nineteenth century, provided some respite. In the 1860’s and 1870’s some two hundred men worked for the slate companies, but by the 1880’s this industry too was in decline.

The next savior was granite. In 1889 investors built a spur line and a small finishing shed on railroad land and arranged to have granite brought down from the Barre quarries. Several more sheds were eventually constructed, and by the outbreak of World War I, over 525 people were employed in the sheds.

Times changed, and by 1954 only the Rock of Ages plant was left, and that too was closed when the head office decided it was too expensive to ship the rough stone here. In 1999 Cetrangolo Finishing Works, founded in 1955, was the last to close. As of August 2000, the Cetrangolo Finishing Works building has been demolished and the site is vacant.

In the end, economic rejuvenation came from what at first might have seemed an unpromising source. Late in 1886, the faculty and student body of Norwich University arrived in town. Their arrival followed acceptance by Norwich trustees of a bid by a group of citizens to have the college relocated here. It is doubtful that anyone seeing the four teachers and fourteen students arrive imagined that the college would become the town’s largest employer.

Beside the large industries, small-scale manufacturing operations and retail businesses of many kinds flourished here in the nineteenth and early twentieth centuries. This diversity was common in Vermont, and Northfield was no exception. Collectively these stores and manufacturers gave employment to many, and economic health to the community for decades.

The Great Depression hastened the end of many businesses. Henry Ford and his competitors made the demise of other businesses certain. Mass production of the automobile and a revived national economy after 1945 put Vermonters on wheels and took them out of town to work and shop. The importance of the automobile as a bringer of change cannot be overstated. In Northfield, as elsewhere, it meant workers no longer had to depend on local businesses for jobs and shopping opportunities; they could drive anywhere employment was available and goods were for sale.

As manufacturing jobs declined, the importance of Norwich University increased. About 1950, Norwich, Rock of Ages, and the Nantanna textile mill each employed approximately 140 people. By 1963, Rock of Ages went out of business. Though the college has seen ups and downs over the past 125 years, its presence has been an economic force for the community and a social and cultural life Northfield probably would not otherwise have seen.

Since World War II, population growth has been slow but steady. The town has seen none of the large-scale tourism that has brought mixed blessings to other Vermont towns. While no large industry has come to town, a number of small businesses have sprung up. Slightly more than half of the Northfield labor force worked out of town. Over two centuries, Northfield evolved from farming to manufacturing to a mix of small businesses and a college town economy.

### **[Northfield Historical Society]**

#### References:

McIntire, Julia. (1981 Fall). History of Northfield. Central Vermont Views, 3, No. 1, 28-33.

McIntire, J. W., and Cleveland, R.L. (1985). Picture Northfield: A Photographic Study.

The Northfield Town Committee (1974). Green Mountain Heritage: The Chronicle of Northfield, Vermont.

## **CHAPTER 2. NATURAL & CULTURAL RESOURCES**

### **2.1 Overview**

Northfield's physical character and identity, its unique "sense of place," is defined by both its natural setting and its built environment. Local topography and natural features helped shape historic patterns of development, which in turn offer a framework for future growth. Many of Northfield's most significant natural and historic features remain remarkably intact, and contribute much to the attractiveness of the community and to the overall quality of life in town.

Northfield does not have to go the way of many communities that are losing their sense of identity and place to nondescript, homogeneous forms of development. Such development can adversely impact the natural environment, and is inconsistent with the historic character of the built environment. Giving due consideration to the town's natural and historic features, and the potential impacts of development on these resources, is critical to protect environmental quality and community identity, and to preserve that which makes Northfield a special place to live, work and visit.

### **2.2 Topography & Drainage**

Northfield lies in the heart of the Dog River valley, defined by the Northfield Range to the west, and the Irish Hill ridge, including Paine Mountain, to the east. The Dog River, fed locally by a number of tributaries within the local drainage area, flows northward into the Winooski, west of Montpelier, and eventually into Lake Champlain. Elevations in town range from around 650 feet where the Dog River crosses into Berlin, to over 2500 ft along the town's western border in the Northfield Range. Prominent peaks to the east include Paine Mountain (2411 ft.), Turkey Hill (1888 ft.), and Shaw Mountain (1820 ft.). Around 62 acres of land are located above 2,500 feet – all in the Northfield Range – and are subject to Act 250 review if developed.

River valleys provided natural transportation routes for prehistoric populations, and early settlers. The "Paine Turnpike" (now called Berlin Pond Road) connecting Brookfield and Montpelier, was first constructed up the Dog River valley in 1799, opening up the town to settlement and trade with the outside world. The Vermont Central Railroad, completed through the valley in 1847, established Northfield Village as an important regional commercial and industrial center.

Historically, settlement was concentrated in the narrow confines of the valley floor in locations where the power of the Dog River and its tributaries could be easily harnessed. Northfield's four historic villages – South Village, Center Village, Factory (Northfield) Village, and Northfield Falls – all developed first as mill sites. Some of these areas lie within the flood plain of the Dog River and as such have been subject to periodic flooding over the years.

As farms extended into the surrounding hills, much of the forests were cleared for agriculture and potash production – the town's earliest industry. Upland areas supported subsistence farming, and for a time commercial sheep and dairy farms. The clearing of steeper slopes, however, also resulted in accelerated stormwater runoff and soil erosion, which depleted local soils.

With the abandonment of the hill farms over the last century, most of the town's uplands have reverted to forests. These areas now support logging operations and wildlife populations, and provide a highly visible and scenic backdrop to the valley below. They are also increasingly attractive for low-density residential development, and high elevation uses such as telecommunications towers and wind generation facilities. If poorly sited and developed, such uses can adversely impact upland headwater and groundwater recharge areas, timber stands, critical wildlife habitat, and scenic views.

Recent changes in the state's regulations now allow septic systems to be built on slopes up to 20%, opening up more upland areas to development (see map). Site preparation and development on steeper slopes (15% or more) should be carefully managed according to accepted management practices to minimize runoff and soil erosion. Development on slopes in excess of 25% (estimated at 6,570 acres or 21% of the town's total land area) should be avoided.

Development in areas that are highly visible from public vantage points also should be sited and designed to minimize visual impacts – by siting development below prominent peaks and ridgelines, minimizing site clearing, screening development from view, and using colors and materials that blend into the surroundings.

### 2.1 Slope Development Suitability

<u>Slope</u>	<u>Recommended Management</u>
0-3%	Suitable for development, may require drainage improvements
3-8%	Most desirable for development, having the least restrictions
8-15%	Suitable for low-density development with consideration given to erosion control, runoff, and septic design
15-25%	Unsuitable for most development and septic systems; runoff and erosion problems likely; any construction should be carefully managed
25%+	All construction should be avoided; careful land management is required.

Source: US Natural Resource Conservation Service.

## 2.3 Natural Resources

Northfield has a wealth of natural resources that contribute to a healthy and diverse environment, and support local economic and community development. The protection and sustainable use of the town's natural resource base is necessary to maintain the quality of life for existing and future Northfield residents. Many of the resources noted here are shown on accompanying maps.

### Earth Resources

**Geologic Features & Hazards.** Northfield's many quarries supported a thriving slate industry in the mid- to late 1800s, rescuing the community from economic decline following the relocation railroad operations. These quarries, which extend over several acres, are no longer operational; however several quarries have been reopened in recent years elsewhere in the state. Other rock and mineral deposits are found locally, though not in commercial quantities. Avid recreational panners may find small amounts of placer gold in local streams.

Geologic hazards are minimal, though isolated rock falls and slides are common on steep or unstable slopes. Regional earthquakes, typically centered in the Adirondack Mountains or southern Quebec, occur with enough frequency and strength that public infrastructure, buildings, and utility systems should incorporate basic seismic standards for earthquake resistance.

**Sand & Gravel.** Sand and gravel deposits, located mainly along the Dog River and its tributaries, supply commercial extraction operations. Based on soil surveys, it is estimated that there are nearly 4,500 acres of potential sand and gravel, though not all may be suitable for extraction. Such operations supply much needed sand and gravel for road maintenance and construction; but if not properly developed and managed, can result in unstable slopes and slides, and adversely affect surface and groundwater quality, local roads, and neighboring properties. Phasing to limit exposed areas, good management practices, and site reclamation can reduce some of these impacts.

**Agricultural Soils.** Farmland still in production locally is generally confined to the best agricultural soils in town. Northfield has around 4,500 acres of mapped “primary agricultural soils,” including soils of federal and statewide importance (see map). These soils are considered by the state to be a critical natural resource for local agriculture and food production, and as such are considered for protection in Act 250 review.

### **Water Resources**

**Groundwater.** Upland areas, and glacial sand and gravel deposits, serve as important aquifer recharge areas that replenish local groundwater supplies – including many private wells and the town’s well fields. Most recharge areas have yet to be mapped, but the state has delineated “source protection areas” (also known as wellhead protection areas) to protect public water supplies (see map).

The delineated source protection area for the village water supply encompasses 111 acres. Potential sources of contamination identified by the Northfield Water Department include road salt, accidental spills, failed septic systems, fertilizer, runoff, pesticides, herbicides, and chemicals. The Department has developed a source protection plan that was approved by the state in 2002. Extending sewer service to this area would eliminate potential contamination from failed septic systems. Additional protection could be implemented through local land use regulations.

**Surface Waters.** Northfield has approximately 100 acres of mapped surface waters. Prominent surface waters in town include the Dog River and its tributaries (Cox Brook, Union Brook, Stony Brook, Felchner Brook, Bull Run, Sunny Brook and Robinson Brook) and small upland ponds, including Felchner Pond, and a number of beaver ponds. Surface waters also include upland headwaters that feed local brooks and ponds. Although these often do not show up on maps, headwaters are nevertheless important to sustain local water supplies and maintain water quality. A “surface water protection area” extending along the Irish Hill ridge to Paine Mountain also has been delineated by the state to protect the Berlin Pond that supplies water to Montpelier, and the headwaters of the Dog River.

Historically the Dog River suffered the effects of damming, siltation, and pollution. Today it is one of Vermont’s top wild trout streams, supporting natural populations of brown, rainbow, and brook trout. The river and its major tributaries are important cold-water fisheries that are particularly sensitive to changes in stream flow, temperature, and sediment loads. The Dog is also rated highly for its scenic qualities and for recreational boating below the Nantanna Mill dam. Northfield Falls on the Dog River, which once supplied power for mills in Northfield Falls, is a locally significant, scenic cascade.

Surface water quality is generally good. Most waters in town are rated “Class B” by the state – indicating that they will support local fisheries and are generally suitable for recreation, and drinking with treatment. Within a designated “mixing zone” on the Dog River, extending downstream from the wastewater treatment plant outflow, uses are more limited. This stretch of the river has been classified as “impaired” by the state because of high concentrations of copper and toxics generated from local industry. Planned treatment plant improvements are expected to eliminate this source of pollution.

Other threats to water quality include failed septic systems, stormwater runoff, and sedimentation from construction sites, roads, and other impervious surfaces. These can be reduced through the use of surface water setbacks, undisturbed buffer zones, and the application of best management practices for stormwater management and erosion control.

### **Environmentally Sensitive Areas**

Environmentally sensitive areas are distinct areas that serve important ecological and environmental functions, and are particularly vulnerable to the adverse impacts of development or mismanagement. Development of these areas should be avoided, or carefully managed where encroachments are unavoidable.

**Wetlands.** Wetlands, once thought to be mosquito-ridden wastelands, are now recognized to serve a number of important ecological and environmental functions – including but not limited to flood management, ground and surface water recharge and filtration. They also provide important wildlife habitat, and contribute to the diversity and beauty of the natural landscape.

The loss of wetlands through draining and development is an issue of state and national concern; significant wetlands are now protected under both state and federal regulations. Wetlands regulated by the state are identified on the Vermont Significant Wetland Inventory (VSWI) map for the town. There are no extensive mapped wetland areas in Northfield, however many smaller wetlands are found throughout town, along the Dog River and its tributaries, and in headwater areas. Not all wetlands appear on this map, however. Site-specific information and delineations may be required for the review of impacts associated with a particular development. Protection is typically provided through the designation of buffer areas at least fifty feet in width, within which very few activities are allowed.

The town is required, under state and local regulations, to notify the state wetlands office whenever development is proposed within or adjacent to mapped wetland areas. There are a few cases on record of local wetlands being filled in violation of these regulations. The town may also opt, through local regulations, to protect wetlands that do not trigger state review.

**Floodplains.** Local flood plains, including those areas along the Dog River and its tributaries, which have a chance of flooding once every one hundred years (the 100-year floodplain), have been roughly identified on federal Flood Hazard Boundary Maps (FHBMs) for the town. Property owners within mapped flood hazard areas are eligible to purchase flood insurance through the National Flood Insurance Program (NFIP) as long as the town regulates development within these areas as required under state and federal programs. The town is also required to notify the state when development is proposed within mapped flood plains.

Flooding, including flash flooding after major storms, may also occur on land outside of mapped flood plains, including upland streams. Stream setbacks, buffers, and stormwater management requirements under local regulations can help reduce flood hazards in these areas.

**Wildlife Habitat.** Habitat loss, over-hunting, and environmental pollution led to the extinction of a number of wildlife species locally and statewide, including deer, turkey and beaver populations. Reforestation has allowed for the re-establishment of core and seasonal habitat areas, and connecting (travel) corridors along ridgelines, streams and wetlands, which support diverse wildlife populations, including both game and non-game species. Habitat fragmentation and loss, however, from land subdivision, clearing and human use, continue to threaten wildlife populations in the path of development. Critical wildlife habitat areas in town identified to date (see map), and considered in state regulatory proceedings include:

- Several large **deer wintering areas** (more than 5,000 acres), also referred to as “deer yards,” which are critical to the winter survival of local deer populations;
- **Seasonal bear habitat** (roughly 4,800 acres) located mostly in remote upland areas, including the Northfield Range; and
- A **rare plant community** – a species of fern – on the slopes of Paine Mountain.

Many other important wildlife areas may exist in town, but have not yet been identified or mapped. Often these are identified on a project-by-project basis; however, a more comprehensive inventory could be undertaken locally by trained volunteers through Keeping Track<sup>®</sup> – a Vermont-based nonprofit that provides community training in wildlife identification and tracking. Wildlife habitat protection could also be incorporated under local subdivision and zoning regulations.

## **2.4 Cultural Resources**

Northfield residents have long taken an interest in the town’s historic development. The Northfield Historical Society was established to preserve and interpret local history for present and future generations of Northfield residents. The Society maintains a collection of materials and artifacts in its new home – the historic Paine House (the former site of the American Legion).

### **Traditional Settlement Patterns**

Northfield’s traditional settlement pattern – of clustered villages linked by an integrated transportation network, and surrounded by an open river valley and forested uplands – has been well-established since the nineteenth century. Northfield’s villages were developed at a scale and density that is pedestrian friendly, with clearly defined streetscapes and public spaces, prominent public buildings, and a variety of goods, services and employment opportunities – all within easy walking distance of residential neighborhoods.

As noted in the town history, the introduction of the automobile significantly altered the town’s character, yet this traditional pattern of development remains largely intact. Northfield has yet to suffer the effects of large-scale, auto-oriented commercial strip development and low density sprawl that are plaguing other Vermont communities. Issues associated with traffic and parking, and the effects these have on residential neighborhoods, are more common locally. Through the use of local subdivision and zoning regulations, and carefully delineated water and sewer service areas, Northfield can promote types and patterns of growth that are consistent with its traditional character, and help preserve its local identity.

## **Historic Sites & Structures**

Northfield has a wealth of historic resources that includes hundreds of documented historic sites and structures, and many others that have yet to be identified or catalogued. A few of Northfield's most historic structures – including its five covered bridges, the Vermont Central Railroad Station, the Old Mill Building and the Mayo Building – were accepted for listing on the National Register of Historic Places back in the 1970s and early 1980s.

A more comprehensive historic sites and structures survey for Northfield, conducted by the state in 1980-81, identified six separate historic districts, with 342 contributing structures (Table 2.2), and 79 other historic structures located throughout town. A structure generally must be at least fifty years old, and retain its historic integrity, to be eligible for listing on state and national registers. Most structures identified to date are historic homes, but also included several school houses, many of Northfield's public buildings, the Vermont Central Railroad engine house, the Nantanna Woolen Mills complex, the Brown Public Library, and the Vine Street and Town Highway 57 bridges. At the time the Northfield survey was conducted, many of these structures were in good to excellent condition.

Not included on the initial survey were potential archaeological sites, including quarry and mill sites along the Dog River; town cemeteries which are an important historic resource, and other types of historic structures such as barns and outbuildings, that have yet to be identified or surveyed, but may also contribute to the town's cultural heritage.

Northfield's six historic districts, and many of the historic structures listed on the state inventory may be eligible for listing on the National Register of Historic Places, and should be considered for nomination. In addition to conferring state and national recognition of historic significance, listed properties are eligible for limited state and federal financial assistance, including historic preservation grants and rehabilitation investment tax credits.

Listing, however, offers very limited protection from demolition or alteration – potential impacts of development on listed properties are considered only for projects that are subject to federal or state review (e.g., Act 250). Act 250 may also trigger an initial site assessment to determine if buried archaeological resources are present. The town could consider adopting historic and/or design review regulations under zoning to further protect the character of individual historic landmarks or designated historic districts.

### **National Register of Historic Places**

#### **☞ Northfield Listings ☞**

Lower Cox Brook Covered Bridge [1974]  
Northfield Falls Covered Bridge [1974]  
Slaughterhouse Covered Bridge [1974]  
Stony Brook Covered Bridge [1974]  
Upper Cox Brook Covered Bridge [1974]  
Central Vermont Railway Depot [1975]  
Old Red Mill [1977]  
Mayo Building [1983]

### **☞ Northfield Historic Cemeteries ☞**

#### **Public Cemeteries (subject to municipal regulations & policies):**

Aldrich (West Hill)  
Elmwood (Cemetery Street)  
Four Corners (Devils Washbowl)  
Loomis (Poor's Road)  
Mount Hope (South Main Street)]  
Richardson (Norwich University)  
Robinson (Robinson Road)

#### **Private Cemeteries:**

Calvary Catholic Cemetery (Doyon Road)  
Old Catholic Cemetery (King Street)  
Northfield Falls (Northfield Falls)  
Norwich Cemetery (Norwich University)



## 2.2 Northfield Historic Districts

District	Description	Structures	Condition
Northfield Falls Village	Mid-19 <sup>th</sup> century mill village, first settled in the 1820s; dominated by Greek Revival architecture	40 contributing structures; 13 other structures	20% excellent 40% good 30% fair 10% poor
Water-Pleasant Street	Historic residential district dating from 1840s; 1890s stoneworker housing	54 contributing structures 34 other structures	15% excellent 70% good 10% fair 5% poor
Vine Street	Historic residential district developed between 1840 and 1920; houses represent a range of architectural styles	97 contributing structures 36 other structures	5% excellent 40% good 35% fair 20% poor
Crescent Street	Historic residential district; mostly Greek Revival architecture; face common and Norwich University	11 contributing structures 1 other structure	20% excellent 40% good 40% fair 0% poor
Depot Square	Historic commercial district linking Main Street to the railway; anchored by two 19 <sup>th</sup> century landmarks– the VCR Rail Station and the United Church; 20 <sup>th</sup> century infill	12 contributing structures Depot Square 4 other buildings	10% excellent 70% good 20% fair 0% poor
South Main-Central Street	Historic residential district, reflecting prosperity associated with railroad, granite industry; Greek and Colonial Revival	128 contributing structures 16 other structures	50% excellent 40% good 5% fair 5% poor

Source: *Vermont Historic Sites & Structures Survey, Northfield, VT*, Division for Historic Preservation, 1980-81.

Additional state assistance is available for historic properties within designated downtowns under Vermont's Downtown Program (see Chapter 5), and for preservation projects conducted by "Certified Local Governments (CLGs)." Northfield could apply for CLG status, which extends federal and state preservation partnerships to the local level. CLGs are eligible for additional federal and state preservation grants and technical assistance, and may participate directly in the nomination of historic properties for listing. In order to become a CLG, the town would need to:

- Adopt and enforce local legislation for the designation and protection of historic properties;
- Establish an historic preservation review commission to review development within designated historic districts;
- Maintain a system for surveying and inventorying historic properties;
- Provide for public participation in local historic preservation programs, including community-wide information and education; and
- With assistance from the state, meet responsibilities under the National Historic Preservation Act.

## **2.5. Natural & Cultural Resource Goals, Policies & Tasks**

### **Goals**

*To identify, protect and preserve important natural and historic features of Northfield's landscape, which help define the community's unique identity and sense of place; and*

*To maintain and improve the quality of Northfield's air, water, wildlife and land resources.*

### **Policies**

Development should be:

- 1) Carefully managed on slopes of 15-25% to minimize surface water runoff and erosion, and prohibited on slopes of 25% or more;
- 2) Sited to avoid prominent ridgelines and hilltops, as viewed from public vantage points;
- 3) Carefully sited, designed and managed in upland areas (e.g., over 1800 ft) to avoid steep slopes and shallow soils, and adverse impacts to headwaters, groundwater recharge areas, and scenic views from public vantage points;
- 4) Sited and carefully managed to avoid the fragmentation and degradation of critical wildlife habitat, including core habitat areas and connecting corridors,
- 5) Sited to avoid, to the extent feasible, primary agricultural soils, which should be protected for current and future agricultural use;
- 6) Setback sufficiently and buffered from surface waters and wetlands as needed to protect water quality, critical riparian habitat, and cold water fisheries (e.g., 50 foot minimum),
- 7) Sited to avoid and/or minimize impacts to designated source and surface water protection areas that supply community or municipal water systems
- 8) Sited to avoid flood hazard areas to the extent feasible, or where necessary, be designed to minimize flood damage and the loss of life and property;
- 9) Sited and designed to be consistent with Northfield's historic settlement pattern, including traditional densities and scales of development, local street networks, and streetscapes;
- 10) Compatible with Northfield's historic architectural styles,
- 11) Designed to minimize adverse impacts to Northfield's historic sites and structures.

### **Tasks**

- 1) Continue to inventory, catalogue and map Northfield's natural and historic features [Historical Society, Planning and/or Conservation Commission].
- 2) Update local land use regulations as needed to adequately protect Northfield's natural and historic resources. Consider the adoption of conservation, historic and/or design review overlay districts, for natural and open space protection, and for the adaptive reuse of historic structures. [Planning Commission, Selectmen, Trustees].
- 3) Consider nominating one or more of Northfield's Historic Districts to the National Register of Historic Places [Historical Society]
- 4) Consider application for Downtown and/or Certified Local Government designation to access additional resources and financial assistance for historic preservation [Selectmen, Trustees].

- 5) Seek financing as needed for the redevelopment of the town's historic properties, including Northfield's historic public buildings [Selectmen, Trustees, Historical Society].
- 6) Seek financing as needed to conserve significant natural areas or features, through the purchase of land or interests in land (e.g., conservation easements, development rights). [Selectmen, Trustees, Planning Commission, and/or Conservation Commission].

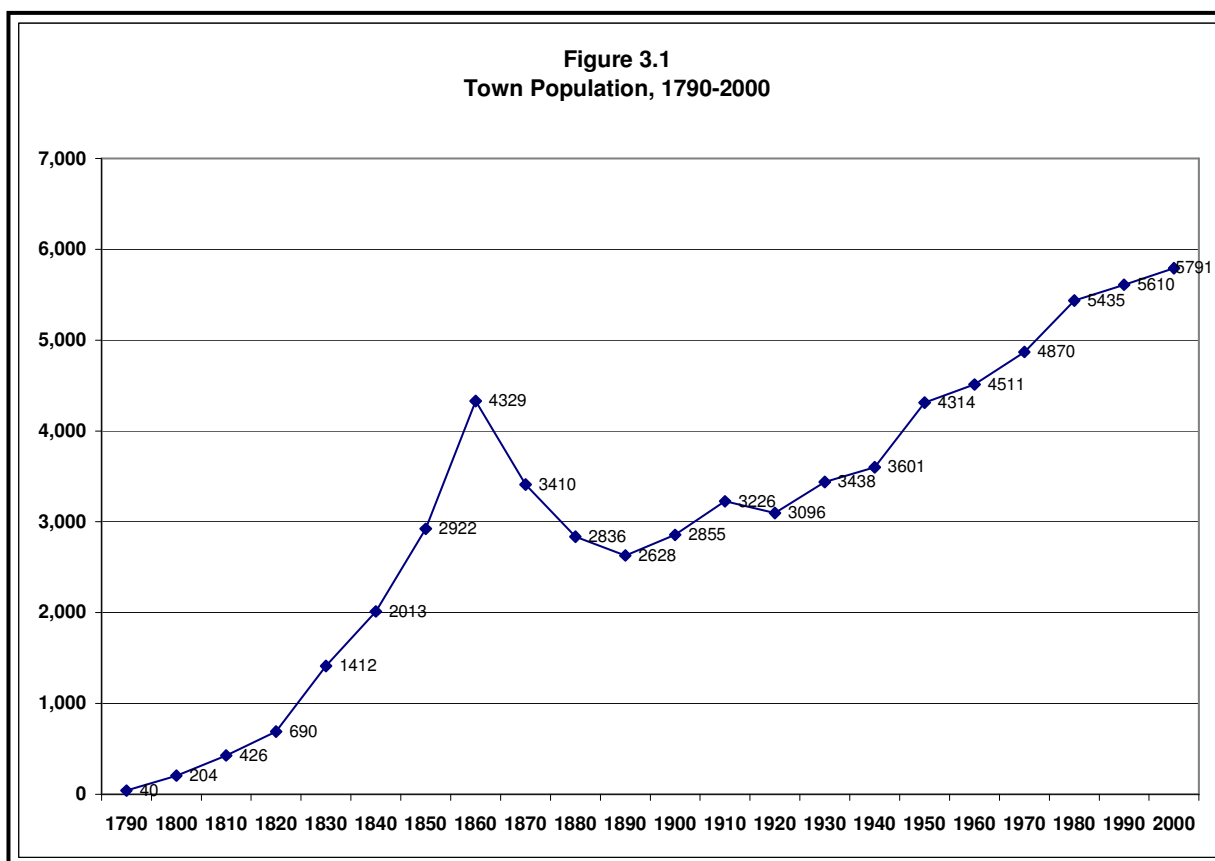
## CHAPTER 3. POPULATION

### 3.1 Overview

The composition and fluctuation of a community's population can have a significant influence on a number of issues of public concern. Generally, rapid population change can stress community services, result in environmental degradation, create or limit economic opportunity, and/or impact housing conditions and values. The presence of large age cohort – such as a large retirement or student population – can place special demands on community services. This chapter examines population trends and characteristics in Northfield, and identifies those likely to affect future conditions in the community.

### 3.2 Historic Trends

Since its settlement in 1785, Northfield's population change varied from that of most Vermont communities (see Figure 3.1). The town's 19<sup>th</sup> century population peaked around 1860 – at which time Northfield was the state's fourth most populous community. The local decline of the railroad, which began in the 1850s, the American Civil War, and subsequent westward migration, preceded a period of population decline. For much of Vermont, that period of decline lasted through the 1950s. The trend reversed itself much earlier in Northfield, however, which experienced relatively steady population growth since 1890.



### 3.3 Recent Trends

In recent years, Northfield's population growth has been relatively slow. During the 1980s and 1990s, the town's population increased a total of 3.2% for each decade – an average annual rate of 0.3% since 1980. The town's rate of population growth has been lower than that of Washington County as a whole. Over the past 10 years communities located in the western portion of the county have seen rapid population growth.

All of Northfield's neighboring municipalities experienced higher rates of population growth during the previous two decades, although Roxbury's rate of increase slowed considerably during the 1990s. This is even true with Williamstown that, despite being located some distance from regional population and employment centers, exhibited a significantly higher rate of population growth since 1980. A comparison of population change in surrounding towns is provided in Table 3.1.

<b>Table 3.1</b> <b>Northfield &amp; Surrounding Communities</b> <b>Population Trends: 1980-2000</b>							
	1980	1990	2000	Change (#)		Change (%)	
				1980-90	1990-00	1980-90	1990-00
Berlin	2,454	2,561	2,864	107	303	4.4%	11.8%
Moretown	1,221	1,415	1,653	194	238	15.9%	16.8%
<b>Northfield Town</b>	<b>5,435</b>	<b>5,610</b>	<b>5,791</b>	<b>175</b>	<b>181</b>	<b>3.2%</b>	<b>3.2%</b>
<b>Northfield Village<sup>1</sup></b>		<b>1,889</b>	<b>2,010</b>		<b>See note</b>		<b>See note</b>
Roxbury	452	562	576	110	15	24.3%	2.5%
Waitsfield	1,302	1,422	1,659	120	237	9.2%	16.7%
Williamstown	2,284	2,839	3,225	555	386	24.3%	13.6%
Washington Co.	52,393	54,928	58,039	2,535	3,111	4.8%	5.7%
Vermont	511,456	562,758	608,827	51,302	46,069	10.0%	8.2%
Source: U.S. Census. <sup>1</sup> Northfield Village's 2000 population, as reported by the U.S. Census, included students residing on the Norwich University Campus, although the campus is located outside the Village boundaries. The on-campus student population – 1,198 residents – was excluded from the Village population in this table. Student residents were included in both the 1990 and 2000 population figures for the town, which includes all village residents.							

### 3.4 Components of Population Change

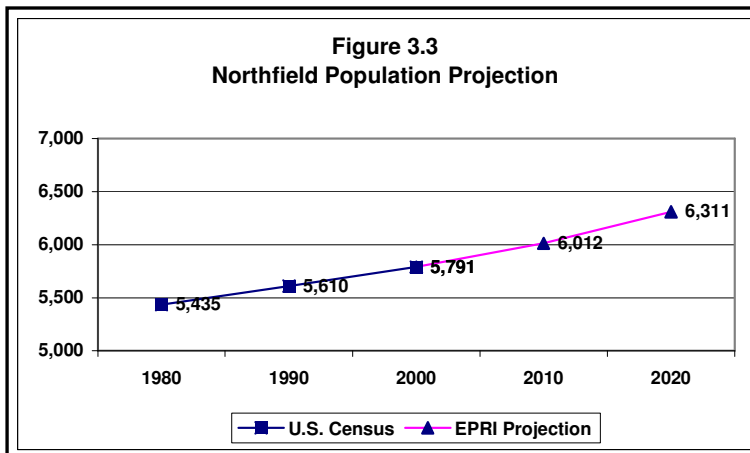
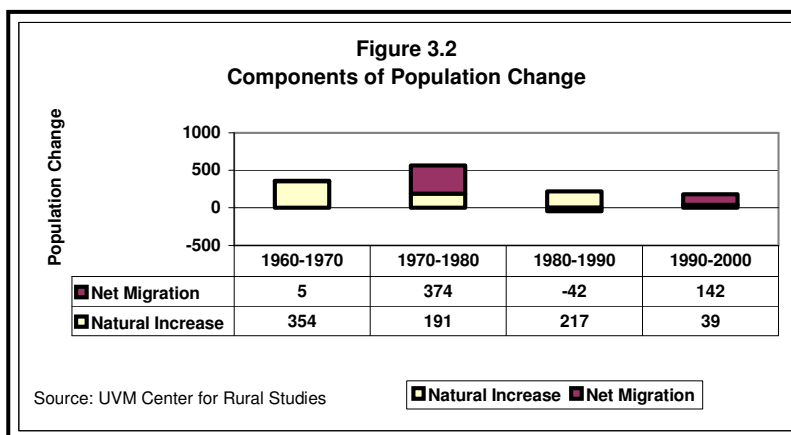
According to the University of Vermont's Center for Rural Studies, 66% of Northfield's population growth during the 1970s was due to in-migration (people moving to town). During the 1980s, however, all population growth was attributable to natural increase (the number of local births minus local deaths), with more people leaving town during the decade than moving in.

This trend was reversed over the past decade, as 79% of the population increase during the 1990s was attributable to net migration. The remaining 21% of the population growth during the 1990s was due to natural increase (see Figure 3.2).

### 3.5 Population Projections

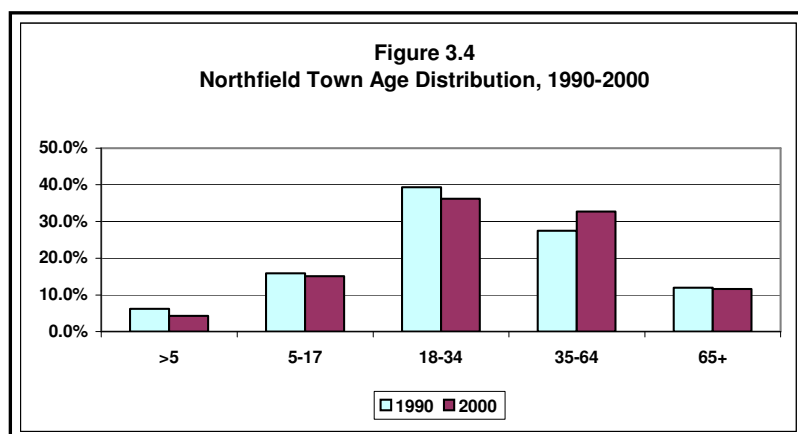
In addition to past trends, future population changes should be considered to avoid unanticipated burdens to the community. In 2001, the Central Vermont Regional Planning Commission contracted with Economic & Policy Research Inc. (ERPI) of Williston to prepare economic and demographic forecasts for towns in the region through 2020. According to the ERPI forecast, Northfield's population is expected to increase by an estimated 221 people by 2010, an average annual rate of growth of 0.4%. This is among the slowest projected rate of population increase in Washington County. Figure 3.3 displays the ERPI forecast, to the year 2020. It should be noted, however, that since the EPRI projections were developed it was announced that a major new employer – the National Center for the Study of Cyber-Terrorism and Cyber-Crime – would locate in Northfield (see Chapter 5). The potential influx of new residents would likely result in a higher rate of growth than what was projected.

Should population projections for the town and Washington County come to pass, Northfield will comprise 9.8% of the county's population in 2010, a slight reduction from the 10% of the county population it comprised in 2000. That percentage is projected to continue to decline, with the town expected to comprise 9.5% of the county's population in 2020.



### 3.6 Population Characteristics

Northfield's population, following state and national trends, has aged over the past decade. The number of children (17 years of age or less) has declined. The greatest increase occurred in the 35-64 year old "baby boomer" category. Norwich University's student population inflates the number of 18-34 year old residents in town. Omitting the student population residing in on-campus dormitories considerably reduces the population of 18-34 year olds. It also shows that this age group declined significantly during the 1990s. Unless substantial in-migration occurs, the town's school-aged population is likely to continue to decline in coming years. The composition of the population in 1990 and 2000 is presented in Figure 3.4.



In addition to age distribution, the U.S. Census provides a range of current information regarding the characteristics of town and village population. A statistical profile of Northfield's 2000 population is provided in Table 3.2, which reveals several similarities – and some noteworthy differences – between town and village population and that of the county and state.

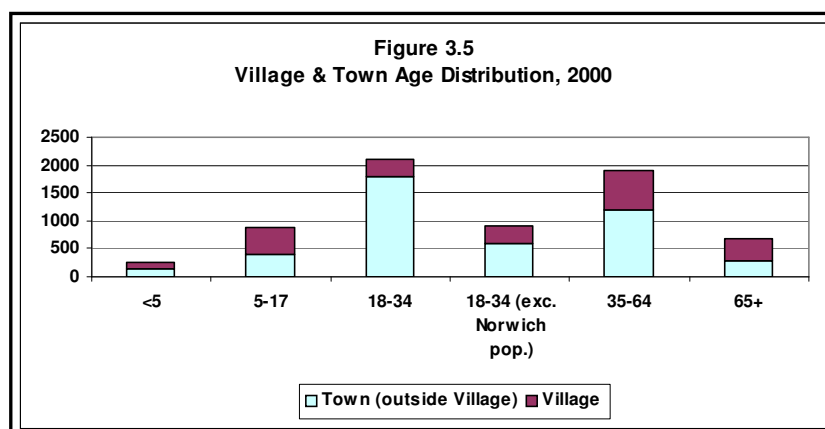
In many respects, the town's population characteristics in 2000 were quite similar to the county's and state's population. Similarities exist in:

- Median family income
- Ethnic diversity
- Formal education, and
- Family size

In several other respects, the characteristics of the town's population vary considerably from those of the county and state. This is due to the relatively large number of Norwich students, which makes the town population younger, less wealthy (as indicated by per capita income), disproportionately male, and less impoverished. It appears, however, that if the student population is removed from mix, the town's population remains similar to the county's and state's in most respects.

Census figures also provide comparative information between the town's population and that portion of the town's population residing in the village. Somewhat surprisingly, the village population

contains both a greater percentage of elderly residents and a greater percentage of school aged children. The elderly population includes residents of senior care facilities, and the relatively large school aged population may indicate the presence of younger families, although the percentage of 18-34 year olds is low relative to the town outside of the village (see Figure 3.5).



**Table 3.2  
Northfield 2000 Population Profile**

	<b>Northfield Town</b>	<b>Northfield Village</b>	<b>Washington County</b>	<b>Vermont</b>
Population	<b>5,791</b>	<b>3,208</b>	58,039	608,827
% Male	<b>54.9%</b>	<b>58.7%</b>	49.0%	49.0%
% Female	<b>45.1%</b>	<b>41.3%</b>	51.0%	51.0%
% Minority	<b>4.6%</b>	<b>6.6%</b>	1.7%	2.1%
% Born in Vermont	<b>50.0%</b>	<b>42.2%</b>	58.5%	54.3%
% Foreign Born	<b>2.9%</b>	<b>3.8%</b>	3.6%	3.8%
% Veteran (civilian pop 18 years and older)	<b>14.7%</b>	<b>11.8%</b>	13.9%	13.6%
% With a Disability (civilian non-institutionalized pop)	<b>8.2%</b>	<b>10.1%</b>	17.3%	16.1%
Median Age	<b>29.7</b>	<b>22.1</b>	38.5	37.7
% Children (< 18 years old)	<b>19.4%</b>	<b>15.0%</b>	23.5%	24.2%
% Elderly (> 65 years old)	<b>11.6%</b>	<b>11.8%</b>	12.9%	12.7%
% High School Graduates (pop 25 years and older)	<b>86.6%</b>	<b>83.6%</b>	88.4%	86.4%
% College Graduates (pop 25 years and older)	<b>29.6%</b>	<b>25.5%</b>	32.2%	29.4%
Per Capita Income	<b>\$15,592</b>	<b>\$11,760</b>	\$21,113	\$20,625
% Below Poverty Level	<b>6.7%</b>	<b>12.1%</b>	8.0%	9.4%
% Children Below Poverty Level	<b>6.1%</b>	<b>9.5%</b>	9.1%	10.7%
% Elderly Below Poverty Level	<b>6.2%</b>	<b>10.0%</b>	6.8%	8.5%
Families	<b>1,225</b>	<b>487</b>	15,147	157,736
% Families w/ Children	<b>32.4%</b>	<b>32.4%</b>	31.0%	31.8%
Average Family Size	<b>2.95</b>	<b>2.92</b>	2.91	2.96
Median Family Income	<b>\$51,818</b>	<b>\$39,783</b>	\$51,075	\$48,625
% Below Poverty Level	<b>3.2%</b>	<b>6.5%</b>	5.5%	6.3%
Population Living in Group Quarters <sup>1</sup>	<b>1,312</b>	<b>1,312</b>	2,117	20,760
% in Institutionalized Population	<b>2.0%</b>	<b>3.6%</b>	1.1%	0.9%
% in Non-institutionalized Population	<b>20.7%</b>	<b>37.3%</b>	2.6%	2.5%

Source: U.S. Census data.

<sup>1</sup>Population figures for the Village include 1,198 Norwich University students residing on-campus, although the University's student housing is located outside the Village.



The village population also is less wealthy, as indicated by median family income (which excludes students) and poverty rates. While the percentage of village families living below the poverty level (6.5%) is slightly higher than the county (5.5%), it is considerably higher than that of the town (3.2%, which includes village residents). Further, the percentage of village individuals living in poverty (12.1%) is significantly higher than in the town (6.7%), county (8.0%), or state (9.4%).

### **3.7 Special Populations**

The 2000 Census identified two significant populations living in group-quarters in Northfield. The village had an institutionalized population of 114, which includes residents of local senior care facilities. The number of residents in such facilities has remained stable since 1990.

An additional 1,198 students were reported to be living on the campus of Norwich University in 2000. According to university officials, that number had increased to nearly 1,400 in 2002. An additional 300 students live off-campus. These commuter students, which include dependents of university employees, reside throughout central Vermont, although many are presumed to live in private apartments within Northfield.

The university does not anticipate a substantial change in the number of commuter students over the next 5 to 10 years. The number of students residing on campus, however, may increase by as many as 250 during the same period. Such an increase in enrollment would be accommodated through the construction of new on-campus housing, although plans for construction have not been developed. The university is presently preparing a facilities plan that will address student housing. That plan, which is being prepared with the involvement of municipal officials, is expected to be completed in 2003.

As stated previously, a relatively high percentage of the village population is living below the poverty level (232 individuals). A relatively high number of elderly residents also reside in the Village (378 individuals over 65 years of age), although the percentage that is elderly is skewed by the student population. An additional 296 elderly residents reside outside of the village.

In 2000 there were, in addition to the 114 residents of residential care facilities, 564 elderly residents (aged 65 and over) living in the town. Of these, nearly half (274) were disabled. An additional 659 non-elderly residents were identified by the Census as disabled. When the university student population residing on-campus is deleted from the total population, over 20% of the town population and over 25% of the village population is identified as disabled. Disabilities reported may include a range of physical or mental conditions that limit an individual's ability to perform one or more normal daily activities. This is significantly higher than the percentage of the county population (17.3%) or state population (16.1%) that is disabled. It is important to note, however, that 68.6% of the disabled population aged 21 to 64 (510 residents) are presently employed. This is a slightly higher percentage than for the county (64.1%) or state (60.0%), which may indicate that the local disabled population does not have an uncommonly high demand for special services relative to the county as a whole.

### **3.8 Population (Growth Management) Goals, Policies & Tasks**

#### **Goal**

*To accommodate a reasonable rate of growth which maintains a diverse year-round population and does not overburden existing or planned facilities and services.*

#### **Policies**

- 1) Accommodate a level of development over the next 10 years that results in a minimum average annual rate of population growth of 0.4% (approximately 22 new residents annually) within the town and village, in addition to potential enrollment increases at Norwich University.
- 2) Encourage, through land use and housing goals and policies, a socially and economically diverse population. To the extent possible, such goals and policies should promote a greater increase in year-round population (in excess of the projected 0.4% annual rate of increase) and associated development within Northfield Village and delineated municipal sewer and water service areas.

#### **Tasks**

- 1) Track annual permit data, and monitor population and housing estimates prepared annually by the Vermont Department of Health, to identify correlations between housing development and population growth [Planning Commission, Staff].
- 2) Periodically review and update enrollment projections in relation to population growth and housing development [School Board, Planning Commission].
- 3) Prepare a Capital Improvement Program (CIP), including an annually updated and adopted capital budget, to identify and schedule needed capital improvements based on anticipated population growth and available financing [Selectmen and Trustees, in association with the Planning Commission and School Board].
- 4) Exercise statutory party status in Act 250 and other state regulatory proceedings as appropriate, to ensure that town and village growth needs and limitations are adequately addressed in accordance with municipal plan policies and recommendations [Planning Commission, Selectmen].

## CHAPTER 4. HOUSING

### 4.1 Overview

A safe, decent place to live is one of life's basic necessities. For this reason, a main goal of local planning is to ensure sound, safe, and affordable housing for all Northfield residents, now and in the future.

Northfield is fortunate to have a variety of housing that offers new and existing residents a broad range of rental and ownership opportunities. A diverse housing stock supports a diverse community – providing homes for families and individuals in various stages of life, who work in town, support community organizations, and contribute to the local economy. Housing represents a major investment for many local residents. For some, however, household incomes may not be keeping pace with rising housing costs.

Housing also represents an important community investment. Well-constructed and maintained homes, including many of the historic homes that line our village streets, contribute much to Northfield's tax base, historic character, and sense of place. On the other hand, housing that is poorly sited, constructed or maintained can destroy natural resources, overburden public services, reduce property values, increase household operating expenses, and result in unsafe housing conditions and a general sense of decline. Planning to meet community housing needs requires a more careful look at local households, and related housing and market trends.

### 4.2 Household Trends & Characteristics

How the local population is arranged into households – which include all related and/or unrelated individuals living together under one roof – affects the demand for housing, employment, public services and facilities. The number of households in Northfield has increased over the years as the town's population has grown, and households have gotten smaller. A snapshot of Northfield's changing households is provided in Table 4.1.

According to the U.S. Census, in 2000 there were 1,819 households in Northfield, 45% of which resided in Northfield Village. During the 1990s, 137 new households were established in town – over half (52%) of which were located in the village. The number of households in town has been increasing more rapidly than its population, contributing to the local demand for housing.

<b>Table 4.1 Northfield Household Trends, 1990-2000</b>								
	<b>Northfield Town</b>				<b>Northfield Village</b>			
			<b>Change</b>				<b>Change</b>	
	<b>1990</b>	<b>2000</b>	<b>Number</b>	<b>Percent</b>	<b>1990</b>	<b>2000</b>	<b>Number</b>	<b>Percent</b>
Households	1,682	1,819	137	8.1%	741	811	70	9.4%
Avg. Size	2.61	2.46	-0.15	-5.7%	2.4	2.34	-0.06	-2.5%
Family	1,194	1,225	31	2.6%	469	487	18	3.8%
Non-family	488	594	106	21.7%	272	324	52	19.1%
65+ living alone	202	177	-25	-12.4%	124	102	-22	-17.7%
<b>Source: U.S. Census.</b>								

Following national and statewide trends, household size has been declining in recent decades – the result of an aging population, families having fewer children, the breakup of extended family households, and a relative increase in single parent and non-family households. Northfield's average household size, as noted above, decreased from 2.61 persons per household in 1990 to 2.46 persons in 2000. Town wide, households were slightly larger than state and county averages, and included a higher percentage of households with children and single parent families. Village households are typically smaller – in 2000 averaging 2.34 persons per household. This is likely due to the higher percentage of non-family, single parent, and elderly households in the village (Table 4.2).

<b>Table 4.2</b>					
<b>Comparative Household Characteristics, 2000</b>					
	<b>Average Size</b>	<b>% Non-family</b>	<b>% w/Children (&lt;18 yrs)</b>	<b>% Single Parent w/Children</b>	<b>% Elderly (65+ yrs) Living Alone</b>
Northfield	2.46	32.7%	34.6%	9.2%	9.7%
Northfield Village	2.34	40.0%	34.3%	12.7%	12.6%
Washington Co.	2.36	36.4%	32.6%	8.8%	10.2%
Vermont	2.44	34.4%	33.6%	8.5%	9.5%
Source: 2000 U.S. Census.					

Non-family households in Northfield include Norwich University students who live independently, off-campus. As noted in the previous chapter, there are currently around 300 students living off-campus. Campus housing, consisting of dormitories and barracks (group quarters), serve another 1,400 students. It is not known how many commuter students reside in town. There is concern, however, that off-campus student housing – created in part through the conversion of single family homes into rental apartments – is affecting the condition of the housing stock, the character of some village neighborhoods, and the local rental market. The university considers the management of off-campus housing by private landlords as contributing to this situation, but will be evaluating the need to provide additional on-campus housing as part of its facilities planning process to be completed in 2003.

It is anticipated that locally household size will continue to decline, and that the shift toward more nontraditional households will also continue – resulting in increases in non-family, “empty nester,” and elderly households. New household arrangements may in turn increase local demand for accessory apartments, low maintenance rental units, and smaller starter or retirement homes, to complement the town's growing stock of single family dwellings.

### **4.3 Housing Trends**

Historically, as a local commercial and transportation hub, Northfield experienced much more residential development than did its neighbors. This held true until 1970, when the rate of housing growth in surrounding communities began to surpass that of the town. As reported in 2000, Northfield housing units numbered 1,958, representing 7% of the county's total housing stock. Of these, 857 units (43.7%) were located in Northfield Village. Of its immediate neighbors, only Warren had more housing units – the result of explosive ski area-related condominium and seasonal home development in the 1970s and 1980s (Table 4.3).

<b>Table 4.3</b> <b>Comparative Housing Trends: 1970-2000</b>							
	Total Units				%Change		
	1970	1980	1990	2000	1970-80	1980-90	1990-00
Berlin	683	918	1,022	1,172	34.4%	11.3%	14.7%
Brookfield	300	457	565	602	52.3%	23.6%	6.5%
Moretown	392	544	639	727	38.8%	17.5%	13.8%
<b>Northfield</b>	<b>1,312</b>	<b>1,704</b>	<b>1,877</b>	<b>1,958</b>	<b>29.9%</b>	<b>10.2%</b>	<b>4.3%</b>
Roxbury	188	229	335	362	21.8%	46.3%	8.1%
Waitsfield	392	684	831	908	74.5%	21.5%	9.3%
Warren	347	1,337	1,949	2,078	285.3%	45.8%	6.6%
Williamstown	555	861	1,133	1,318	55.1%	31.6%	16.3%
Washington Co.	16,258	22,113	25,328	27,644	36.0%	14.5%	9.1%
Vermont	165,063	223,154	271,216	294,382	35.2%	21.5%	8.5%
Source: U.S. Census.							

The rate of housing development in Northfield has slowed significantly in past decades – declining from an average of nearly 40 units per year in the 1970s, to 17 units per year in 1980s, down to less than 10 units per year in the 1990s. During the last decade, Northfield’s rate of housing growth was the slowest in the area, and roughly half that of the state. The rate of housing growth in the village during the same period (7.7%) actually exceeded that of the town. Interestingly, 2000 Census data suggest that this was due to the construction of new single-family homes in the village, rather than the conversion of existing single-family dwellings into multi-family units.

Given current population projections through 2010 (~220 persons), average household size (2.46 persons per household), and low vacancy rates, it is anticipated that Northfield will need 90 to 100 additional housing units by the year 2010 – representing little or no increase in the current rate of housing development. Such projections, however, cannot anticipate major changes in the housing market that may result from such events as the gain or loss of a large employer, an influx of off-campus college students, or other regional development that could increase the local demand for housing.

#### **4.4 Housing Characteristics**

A summary of local housing characteristics is presented in Table 4.4. In 2000, housing in both the town and village consisted largely of owner-occupied, single family dwellings, though as expected, the village had a much higher percentage of multi-family and rental units. Seasonal homes made up a very small portion of both town and village housing.

Local vacancy rates for both sale and rental units have decreased over the past decade, reflecting an increasingly tight housing market. The reported 2000 local vacancy rate for sale units was only 1.3% –compared to statewide rate of 1.4%. The vacancy rate for rental units was 3.4%, compared with a 4.2% rate for the state.

**Table 4.4  
Northfield Housing Characteristics, 2000**

	<b>Northfield Town</b>	<b>Northfield Village</b>	<b>Washington County</b>	<b>Vermont</b>
<b>Total Housing Units</b>	1,958	857	27,644	294,382
% occupied	92.9%	94.6	85.6%	81.7%
% owner-occupied	68.4%	51.2%	68.5%	70.6%
% renter occupied	31.6%	48.8%	31.5%	29.4%
% seasonal	3.4%	2.0%	11.2%	14.6%
Vacancy rate/sale units	1.2%	1.4%	1.0%	1.4%
Vacancy rate/rental units	3.4%	3.9%	3.5%	4.2%
% single family-detached	61.5%	50.7%	61.5%	65.6%
% single family attached/two-unit	8.9%	13.6%	10.9%	10.6%
% multi-family (3+ units)	17.0%	30.0%	21.3%	15.8%
% mobile homes	12.5%	5.7%	6.2%	7.7%
Median # rooms	5.7	5.6	5.6	5.6
% w/ >1.0 occupant/room	0.7%	0.7%	1.3%	1.5%
% lacking complete plumbing	0.6%	0.0%	0.7%	0.6%
% lacking complete kitchen	0.9%	0.0%	0.8%	0.6%
% built since 1990	12.8%	4.7%	10.7%	13.7%
% built before 1939	44.7%	63.2%	35.4%	30.0%
Source: U.S. Census 2000 (including sample data).				

Much of Northfield's housing stock, including many of its historic village homes, was built prior to 1939. Older homes, while lending to the town's historic character, are often more difficult and expensive to heat and maintain because of their age, size and condition. No comprehensive survey of local housing conditions has been conducted recently, but 2000 Census data suggest that all but a few homes in town have been upgraded over the years to include complete plumbing and kitchen facilities. Overcrowding is also not a problem – less than 1% of units house more than one occupant per room.

The general condition of housing varies in the community – there is concern that the conversion of older single-family homes into rental units is leading to their deterioration. This perceived trend could be more clearly evaluated and documented through a local housing survey.

### **Special Needs Housing**

**Group Housing.** As noted, Norwich University provides on-campus housing for 1,400 resident students. The need for additional student housing will be addressed in the university's 2003 facility plan, which is under development.

There are also licensed Level III residential care facilities in town – the Four Seasons Care Home on South Main Street, Mayo Assisted Living on Water Street, and the Mayo DeLary House on Vine Street. Mayo Nursing Home on Richardson Avenue offers an advanced level of long-term care. These homes have a combined capacity to serve up to 113 elderly men and women and adults with disabilities. Services, provided on a fixed fee basis, include room and board, help with personal care, 24-hour non-medical supervision, and limited nursing assistance.

**Subsidized Housing.** There are currently 84 publicly subsidized housing units in Northfield, which provide housing for low-income families and individuals (Table 4.5). These units, located in six housing developments, represent 4.3% of the town's housing stock, and 5.0% of the county's total supply of subsidized housing. The three largest developments – accounting for 72 of the 84 units – are managed by the Vermont State Housing Authority. The others are managed locally. One-bedroom units specifically designated for elderly housing make up 38% of the total. Only 3 of the 84 units (3.6%) are three-bedroom units, which can house larger families.

Table 4.5 Subsidized Housing						
Development	Units	Bedrooms			Elderly	Handicapped Accessible
		1	2	3		
28½ Vine	2	0	2	0	0	0
Dogwood Glen I	32	16	16	0	0	0
Dogwood Glen II	20	12	8	0	12	1
Green Mt Apts	20	20	0	0	20	2
Vine Street Apts	7	1	3	3	0	7
Water Street	3	0	3	0	0	0
<b>Total</b>	<b>84</b>	<b>49</b>	<b>32</b>	<b>3</b>	<b>32</b>	<b>10</b>
Source: <i>Directory of Affordable Housing</i> , VT Dept. of Housing & Community Affairs, 2000.						

### **Mobile Home Parks**

Six of Washington County's 27 mobile home parks are located in Northfield, which include 18% of the county's total inventory of leased mobile home lots (Table 4.6). All but one of Northfield's parks were established prior to 1980, and all are privately owned and managed. Monthly lot rents in 2001 were generally less than state (\$229) and county (\$258) medians, and varied in part based on the number and types of services provided.

Table 4.6 Northfield Mobile Home Parks							
Park	Year Est.	Lots			Mobile Home Ownership		Lot Rent [Oct 01]
		Total	Leased	Vacant	Park	Leaseholder/Oth	
North Main MHP	1994	7	6	0	0	6	\$230
Northfield Falls MHP	1965	51	42	9	0	42	\$314
Smith's Trailer Park	1970	6	6	0	1	5	\$120
Trombly's Trailer Park	1973	15	15	0	7	8	\$204
Tucker MHP	1975	32	31	1	0	31	\$220
Winch Hill MHP	1966	13	13	0	1	12	\$170
<b>Total</b>		<b>124</b>	<b>113</b>	<b>10</b>	<b>9</b>	<b>104</b>	<b>NA</b>
Source: <i>2001 Registry of Mobile Home Parks</i> , VT Dept. of Housing & Community Affairs [2/02].							

Mobile home parks are viewed by the state as a means of providing safe, sanitary, and affordable housing for low and moderate-income households. Given the age of many parks, the rate of their sale and conversion to other uses, the lack of new park development, and limited vacancy rates statewide, retaining and improving mobile home parks have become matters of state policy. As such, a number of laws and programs have been adopted in recent years to improve and protect existing parks. This includes the "Mobile Home Park Law (Act 252)" which requires that park residents be given notice of any intent by the owners to sell the park. Residents then have a limited period of time to consider purchasing the park, with some assistance from the state, either through a resident cooperative or a nonprofit housing agency.

There is concern that mobile home parks in the vicinity of the town's well field, which are not hooked up to the municipal wastewater system, may pollute the public water supply. A line extension to serve these parks is under consideration as part of the proposed upgrade of the municipal wastewater treatment system.

## 4.5 Housing Affordability

When viewed statewide, housing in Northfield is less expensive than housing elsewhere in Vermont (Table 4.7). According to U.S. Census data, the median reported value for a house in Northfield in 2000 was \$96,700 – 94% of the county median, and only 87% of the statewide median.<sup>1</sup> Housing in the village generally was relatively even more affordable. Reported monthly mortgage and owner costs for local homeowners were also generally lower than county and state medians – however local monthly rental rates were higher than the county median.

<b>Table 4.7</b> <b>Housing Cost Comparisons, 1999</b>				
	<b>Northfield Town</b>	<b>Northfield Village</b>	<b>Washington Co.</b>	<b>Vermont</b>
Median Household (HH) Income	\$41,523	\$33,348	\$40,972	\$40,856
Median House Value	\$96,700	\$89,100	\$102,500	\$111,500
Median Monthly Mortgage	\$984	\$952	\$1,008	\$1,021
Mortgage > 30% HH Inc (% units)	26.7%	27.4%	22.6%	23.1%
Median Monthly Gross Rent	\$547	\$531	\$519	\$553
Rent > 30% HH Inc (% units)	33.1%	32.3%	36.0%	37.5%
Source: 2000 U.S. Census.				

Relative affordability, however, is also determined by household income. Between 1989 and 1999, Northfield's median household income increased by more than 40%, however median mortgage costs increased by 56.7% over the same period, suggesting that local incomes were not keeping up with rising homeowner costs.

According to federal and state definitions currently in use, housing is "affordable" when households at or below the median income level spend no more than 30% of their gross household income on housing costs. In 2000, 27% of Northfield homeowners, and 33% of local renters, were paying in excess of 30% of their incomes on housing. This indicates that housing may not be so affordable for at least a portion of the local population – and particularly for local renters who generally have lower household incomes.

An affordability analysis based on federal and state 2000 income and housing cost data (summarized in Table 4.8) suggests that local housing is currently affordable for all but Northfield's very low-income households. This analysis, however, assumes household incomes based on two wage earners. One-wage earner, single parent, and elderly households on fixed incomes may also be expected to have difficulty keeping up with rising housing costs.

<sup>1</sup> It is important to note that census values, as reported by individuals, represent personal estimates that do not necessarily reflect current sale prices or assessed values. For Northfield, the median sale price in 2000 of a single family dwelling on less than six acres (R1) was \$93,000; and for a dwelling on more than six acres (R2) \$105,000, based on property transfer data. The average assessed value for R1 property on the 2000 grand list was \$78,869.



**Table 4.8  
Housing Affordability Analysis**

Income Level Estimates (2000)	Given an annual household Income of ...	And that total monthly housing costs should not exceed 30% of income, or ...	The maximum price of a house that could be purchased (with 5% down) would be...	Given the median value of a house in 2000 was \$96,700, the difference (gap) for homeownership would be...	Given the median gross rent for a rental unit in 2000 was \$547, the difference (gap) for renting would be...
US Census (1999)					
Median Income	\$41,523	\$1,038	\$131,454	\$34,754	\$491
Low (80%)	\$33,218	\$830	\$105,162	\$8,462	\$283
Very Low (50%)	\$20,762	\$519	\$65,729	(\$30,971)	(\$28)
HUD County					
Median Income	\$43,900	\$1,098	\$138,979	\$42,279	\$551
Low (80%)	\$35,120	\$878	\$111,183	\$14,483	\$331
Very Low (50%)	\$21,950	\$549	\$69,490	(\$27,210)	\$2
MAGI (x2)					
Median Income	\$55,066	\$1,377	\$174,328	\$77,628	\$830
Low (80%)	\$44,053	\$1,101	\$139,463	\$42,763	\$554
Very Low (50%)	\$27,528	\$688	\$87,148	(\$9,552)	\$141
Avg Wage (x2)					
Average Income	\$48,030	\$1,201	\$152,054	\$55,354	\$654
Low (80%)	\$38,424	\$961	\$121,643	\$24,943	\$414
Very Low (50%)	\$24,015	\$600	\$76,027	(\$20,673)	\$53
<b>Notes:</b> 1) Housing is defined as "affordable" when households with incomes at or below median income pay no more than 30% of their gross household income on housing costs; low income=80% median, very low income=50% median. 2) US Census income is the 1999 median household income for Northfield as reported in the 2000 U.S. Census. 3) HUD County income is the estimated median family income for Washington County in 2000 [US Dept. of Housing and Urban Development]. 4) Median adjusted gross income, as reported by the VT Tax Dept. for Northfield in 2000; doubled to estimate income from 2 wage earners. 5) Average annual wage as reported by VDET for Northfield in 2000; doubled to estimate household income from 2 wage earners. 6) Mortgage amount assumes financing for 30 years, at a fixed rate of 7%. 7) The median reported value of an owner-occupied unit in Northfield was \$96,700 as reported in the 2000 U.S. Census; the median sale price of R1 property in Northfield in 2000 was \$93,000, and R2 property \$105,000 [VT Tax Dept]. 8) The median gross rent of an occupied rental unit was \$547 as reported from the 2000 US Census.					

It appears that homeownership may be financially out of reach for some low- and moderate- income Northfield residents. Home purchase programs are available for income-qualified local residents through the Central Vermont Community Land Trust and the Vermont Housing Finance Agency. County residents with household incomes less than \$57,100 (or \$66,600 for a family of three or more) currently may qualify for low interest Vermont Housing Finance Agency mortgages to finance existing homes selling for up to \$152,000, or new homes valued up to \$179,000. These figures are updated annually in relation to reported incomes and rising housing costs.

## **4.6 Regulating Housing**

Vermont municipalities may regulate residential development, but cannot exclude certain types of housing, such as mobile homes and mobile home parks, from the community. Towns are also required to address local housing needs, and to provide for their share of regional housing, as determined for Washington County by the Central Vermont Regional Planning Commission.

Under “equal treatment of housing” provisions in state law, the town must also allow for mobile homes, other types of manufactured housing, and small group homes (serving six or fewer residents), in the same manner that conventional single family homes are allowed. “Accessory apartments” to single-family dwellings, to house elderly or disabled family members, must also be allowed subject to review under local zoning. To encourage the development of more affordable housing statewide, state law was amended recently to allow municipalities to grant density bonuses of up to 50% for affordable housing within planned residential or planned unit developments. Northfield’s current zoning allows for planned residential and planned unit development to encourage a variety of housing types and clustered residential development, but does not allow for any increases in density.

At present, it appears that Northfield is generally providing for its fair share of local and regional housing; however, local regulations should be reviewed to make sure they are consistent with state housing definitions and requirements, and to allow for the development of affordable housing as needed in areas supported by infrastructure which are close to services. Local regulations could also be updated to define and better address affordable and elderly housing, accessory apartments, group homes, residential care facilities, mixed use buildings (that could include apartments), potential inconsistencies with state statute regarding the current prohibition of mobile home parks, and the conversion of single family to multi-family dwellings.

## **4.7 Housing Goals, Policies & Tasks**

### **Goal**

*To ensure the availability of safe and affordable housing for all Northfield residents.*

### **Policies**

- 1) Housing should be encouraged to meet the needs of a diversity of social and income groups, particularly for Northfield residents of low and moderate income.
- 2) New and rehabilitated housing should be safe, sanitary, and located conveniently to employment and commercial centers.
- 3) Housing development should be coordinated with the provision of necessary supporting public infrastructure, services, and facilities.
- 4) Sites for manufactured and multi-family housing should be made available in locations similar to those used for conventional single-family dwellings. Higher densities of residential development should be considered in areas served by municipal water and wastewater facilities.
- 5) Accessory apartments should be allowed within or attached to single-family dwellings to provide affordable housing, supervision and care for elderly or disabled relatives.

- 6) Off-campus student housing should be monitored and regulated locally as needed to minimize adverse impacts to residential neighborhoods in Northfield Village. Any expansion in student enrollments at Norwich University should be accommodated through the development of on campus housing.
- 7) Northfield's existing affordable housing stock, including subsidized housing units and mobile home parks, should be managed, maintained and improved as needed to ensure their long-term availability and affordability.
- 8) The character of Northfield's historic homes and neighborhoods should be preserved and enhanced through historic designations, voluntary preservation efforts, and/or historic or design review criteria that ensure compatible development.

### **Tasks**

- 1) Conduct a local housing survey, funded through a state municipal or community development planning grant, to evaluate local housing conditions, and to identify ways to address affordable or substandard housing [Selectmen/Trustees in association with the Planning Commission and Staff].
- 2) Conduct public education on housing issues by mailing residents on issues such as fire safety and lead paint [Selectmen/Trustees in association with the Planning Commission and Staff].
- 3) Participate in the proposed *Home Share* program that is being developed by Central Vermont Council on Aging to match elderly homeowners needing limited services with tenants who are willing to provide services [Selectmen/Trustees, Central Vermont Community Land Trust.]
- 4) Provide a voluntary program of health and safety inspections through the fire department [Selectmen/Trustees, Fire Department, Health Officer].
- 5) Identify and support unique housing development opportunities, such as the adaptive reuse of historic buildings, which potentially could be funded through Community Development Block grants [Selectmen/Trustees and Staff, Planning Commission].
- 6) Maintain representation on, and work with Norwich University's facilities planning committee to address on-campus student housing needs; and work with university officials, local landlords, and neighborhood groups to monitor and address off-campus student housing impacts on residential neighborhoods. Update and enforce noise and parking ordinances as needed [Selectmen/Trustees and Staff].
- 7) Extend municipal wastewater services to existing mobile home parks within the vicinity of Northfield's well fields, to abate failing on-site systems, and to protect the town's public water supplies [Selectmen and Trustees].
- 8) Consider nomination of a "Northfield Village Historic District(s)," to the National Register of Historic Places to provide tax credit options to interested homeowners for the renovation and improvement of historic properties in the village [Planning Commission, Historical Society].

9) Update and revise local zoning regulations for consistency with state “equal treatment of housing” requirements [24 V.S.A. §4406] to incorporate:

- Provisions for accessory apartments within or attached to single family dwellings,
- Manufactured home and mobile home park definitions and requirements, and
- Group homes and residential care facilities licensed by the state;

and to consider or more clearly address in regulations and ordinances as appropriate:

- Density bonus provisions for affordable housing within planned residential or planned unit developments, as allowed under state law,
- The establishment and/or expansion of mobile home parks in appropriate locations,
- Allowing multi-family dwellings and Planned Residential Developments (PRDs) in additional districts (e.g., with a cap on the number of dwelling units per structure in lower density districts or residential neighborhoods),
- Elimination of incompatible or low density residential uses in principally industrial zoning districts,
- Increased density and/or reduced lot size requirements for multi-family dwellings in higher density (e.g., village) zoning districts,
- Provisions for “mixed use” buildings that may include apartments, in appropriate districts (e.g., village and commercial districts),
- Reduced parking requirements for elderly and/or affordable housing development, and for accessory apartments,
- Wastewater allocations for elderly and/or affordable housing development within a defined sewer service area, and for pollution abatement (e.g., for mobile home park connections) outside the service area,
- Additional standards for the conversion of single family to multi-family dwellings to address potential infrastructure and neighborhood impacts, and
- Historic or design review criteria (e.g., regulatory standards or advisory guidelines) to encourage the preservation of historic homes, or to require compatible development within historic neighborhoods. [Planning Commission, Selectmen, Staff]

10) Review housing recommendations, and any regional fair share allocations, included in the next Central Vermont Regional Plan or related regional housing studies, for consideration within local housing programs and/or regulations as appropriate [Planning Commission, Staff].

## Chapter 5. Local Economy

### 5.1 Overview

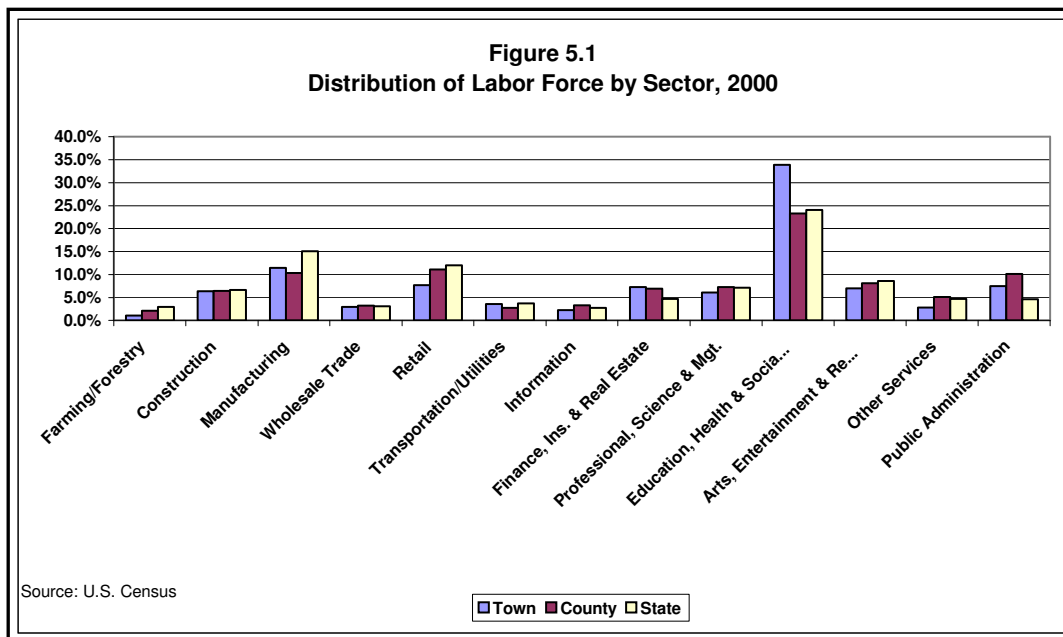
The Town and Village of Northfield<sup>2</sup> have long supported an economic climate in which local residents have access to meaningful employment within the community. Not only does a healthy economy directly benefit Northfield citizens, economic development can benefit the community by expanding the municipal property tax base. Although taxes to support local schools are no longer based solely upon a community's property wealth, municipal services and facilities are still funded through locally levied property taxes. This section addresses economic trends and conditions, and provides background regarding the community's ongoing economic development efforts.

### 5.2 Economic Trends

#### Labor Force

Northfield's resident labor force is composed of residents aged 16 and above, excluding full-time students, retirees, and others who choose not to work for wages or salary. Of the 4,825 Northfield residents aged 16 and over, 3,100, or 61.2%, are in the labor force. This relatively low percentage (compared to 69.3% for the state and 70.5% for the county) is largely attributable to Norwich University's student population. Nearly half (48.5%) of the town's labor force resides in Northfield Village.

According to the 2000 U.S. Census, approximately 35% of local workers are employed in **education, health, and social services** – a much larger percentage than that of the county and state. This includes local residents employed by Norwich University – the town's largest single employer. A breakdown of the labor force, by industrial sector, is presented in Figure 5.1.



<sup>2</sup>Employment and economic data were not available for Northfield Village; consequently, all figures presented in this chapter represent both Town and Village combined unless otherwise noted.

As of July 2002, the **unemployment rate** in Northfield was 4.7%, compared with a rate of 4.0% for the county as a whole. Unlike the county, which has seen its unemployment rate increase from the previous year, Northfield's rate of unemployment remains unchanged from July 2001.

**Journey to work** data, compiled by the U.S. Census, identify where local residents are employed. Although these 2000 census data have not yet been published, 1990 data indicated that 46.9% of the resident labor force (1,228 workers) was employed in town. In addition, 14.6% of local residents worked in Montpelier, 7.6% in Barre City or Barre Town, and 4.4% in Berlin. An additional 29% of all workers employed in town commuted into Northfield from other places.

Despite the lack of more recent journey to work data, it is noteworthy that the average commute to work for town residents in 1990 was 18.9 minutes. In 2000, the average commute had increased only slightly to 21.1 minutes. This likely indicates that a significant percentage of local residents are still employed within the community. Such a conclusion is supported by employment data reported for the town.

### **Covered Employment**

In contrast to the resident labor force, which is composed of all workers *living* in Northfield, regardless of their place of work, **covered employment**<sup>3</sup> is composed of jobs located within the town regardless of the employees' place of residence. Covered employment increased by 9.6% between 1990 and 2000, reflecting the creation of 154 new jobs. This represents an average annual rate of job growth of slightly less than 1% – lower than the annual average of 1.5% experienced by both Washington County and the state during the same period. Total covered employment, by type of industry, is provided in Table 5.1.

**Table 5.1  
Employment by Sector  
Northfield, VT**

Industry Sector	1990	1995	2000	1990-2000	1990-2000
Agriculture, Forestry & Fishing	not published	not published	not published	n/a	n/a
Construction	57	57	52	(-5)	(-8.8%)
Manufacturing	216	298	276	+60	27.7%
Transportation & Public Utilities	60	64	59	(-1)	(-1.6%)
Wholesale Trade	12	15	15	+3	25%
Retail Trade	321	310	316	(-5)	(-1.6%)
Finance, Insurance & Real Estate	80	Not published	not published	n/a	n/a
Services	658	589	685	+27	4.1%
Government	209	229	254	+45	21.5%
Total Covered Employment*	1,611	1,674	1,765	+154	9.6%

\*totals include sectors not published due to small number of reporting business units

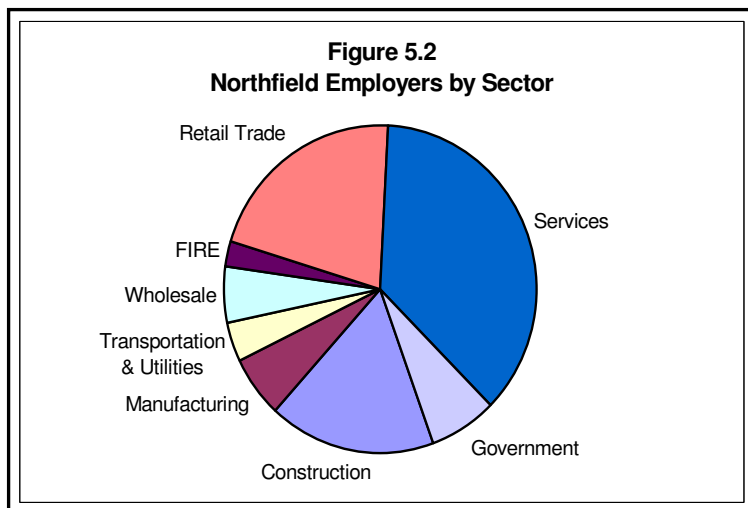
Most job growth during the 1990s occurred in the **manufacturing, services, and government sectors**. **Government**, which accounts for over 14% of Northfield's total covered employment, experienced job growth primarily in local educational services. **Manufacturing**, which in 2000 accounted for nearly 16% of total employment, saw a sharp increase between 1990 and 1995, although the number of manufacturing jobs declined after 1995.

<sup>3</sup>Covered employment includes only jobs covered by unemployment insurance and typically excludes self-employed persons.

The broad services category accounts for nearly 39% of covered employment in the community. This category includes a variety of small businesses. In addition, Norwich University, the mainstay of the local economy, currently employs approximately 500 workers.

### Local Employers

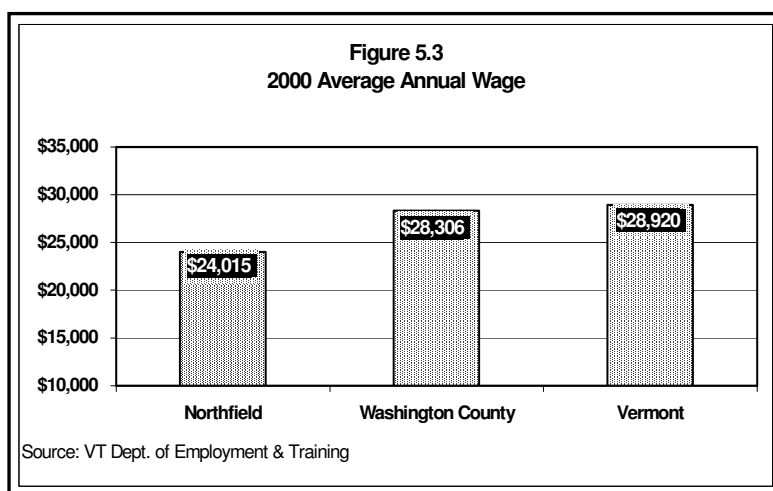
The total number of reporting units<sup>4</sup>, or *employers*, also increased slightly in Northfield from 128 reporting units in 1990 (120 of which were private businesses) to 133 reporting units in 2000 (125 of which were in the private sector). Most of the increase in new businesses was in **services** (+10) and **wholesale trade** (+2), with **retail** (-5), **manufacturing** (-4), **construction** (-1) and **transportation & public utilities** (-1) all showing a decline in the number of businesses operating in the community. The breakdown of all employers, by sector, is presented in Figure 5.2.



While **Norwich University** is the most important local service industry employer in terms of total jobs, there are an additional 46 service sector employers in town, making this the most dominant employer category. Retail trade was second, with 27 businesses in 2000, and construction was third with 22 businesses primarily composed of tradesmen and small builders. Each of the other categories was composed of fewer than 10 reporting units.

### Average Wages

The relatively slow rate of job growth in the community is coupled with lower than **average wages** compared with the county and state. In 2000, the average wage for covered workers employed in Northfield was \$24,015, or \$11.55/hour. This wage is less than 85% of the county and state average. Average annual wages for the town, county and state in 2000 are compared in Figure 5.3.



<sup>4</sup> As is the case with covered employment, reporting units only include those businesses, agencies, and governmental entities that employ workers covered by unemployment insurance. It does not include sole proprietors or other exempt employers whose employees are exempt from unemployment insurance coverage.

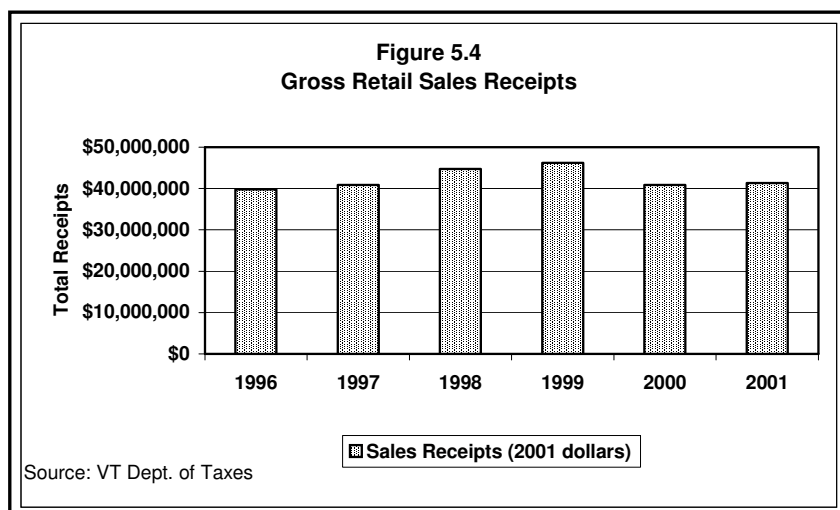
There is widespread concern in Vermont regarding the ability of full-time workers to earn an income sufficient to meet a family's basic needs. This is commonly referred to as a “**livable wage**.” The Vermont Joint Fiscal Office has identified that an annual livable wage for a family of four with two working parents in 2000 ranged from \$11.34/hour per earner (\$47,163) to \$16.12/hour per earner (\$67,065), depending upon access to employer-assisted health insurance. The range of a livable hourly wage for a single parent with one child ranged from \$15.28 to \$21.48, while that for a single person was \$9.57 to \$12.38.

Based upon the Joint Fiscal Office's study, many local wage earners may be earning less than a livable wage, especially if workers lack adequate health insurance coverage. Focusing economic development activities on the creation of well-paying jobs is especially critical in Northfield to ensure that local residents can meet their basic needs.

## **Sales Receipts**

In addition to employment and wages, another useful measure of economic activity may be found in the gross retail sales, restaurant receipts, and commercial accommodation rentals generated by Northfield businesses. Figure 5.4 shows total **sales receipts** reported by local businesses for each fiscal year between 1996 and 2001. Gross receipts include gross retail sales, including those that are not subject to the Vermont sales tax (e.g., groceries, medicine).

Total gross **retail sales** receipts, adjusted for inflation, increased a total of 4.1% between 1996 and 2001. In comparison, gross retail sales within the county increased nearly 38% during the same period. In 1996 retail sales in Northfield accounted for 3.3% of total retail sales in the county. In 2001, Northfield's share of the county total decreased to 2.5%, indicating a potential weakness of the local retail sector relative to the county. This is further indicated by the decline in retail establishments in the community during the 1990s.



In addition to retail sales, the Vermont Department of Taxes also reports total **lodging and restaurant sales** that are subject to the state's rooms and meals tax. Total annual rooms and meals receipts for 1996 through 2001 are presented in Figure 5.5.

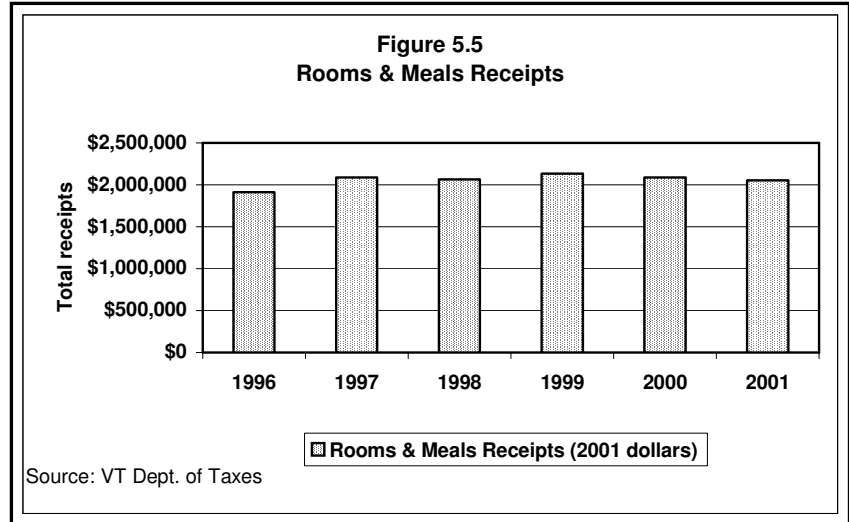
Rooms and meals receipts experienced annual fluctuations similar to retail sales, although the

net increase since 1996 was 7.2% (adjusted for inflation). As was the case with retail sales receipts, gross sales over the six-year period actually peaked in 1999 and have declined nearly to 1996 levels.



### 5.3 Economic Outlook

Northfield's history is marked by economic diversity and innovation in responding to changing circumstances and opportunities. In recent years, however, economic activity in the community has lagged behind that of the county and state. Although a high percentage of town residents are able to work within the community, average wages remain below the county and state average and the rate of local job creation and business growth have remained relatively flat.



Although a detailed economic forecast was not prepared as part of this planning effort, there are several reasons for optimism regarding the community's economic outlook that may offset many of the concerns discussed above. The causes for optimism include several recent developments that combine to create a much stronger environment for community and economic development efforts than existed a short time ago. These include:

- Creation of the Bean Industrial Park and subsequent relocation and expansion of Cabot Hosiery;
- Construction of the Kreitzberg Arena at Norwich University;
- Construction of the new National Guard Armory and training facility on the Norwich campus;
- Recent and projected enrollment increases at Norwich University, coupled with the apparent stability of the school's employment base;
- Infrastructure improvements in the Village, including upgraded sidewalks to provide better access to the school and the planned creation of a small riverside park adjacent to the downtown;
- Renovation and expansion of the Brown Public Library and Governor Paine House complex;
- The transfer in ownership of the old Armory to Norwich University;
- Upgrade of the municipal water system, which tripled the system's capacity from 500,000 gallons per day (gpd) to 1.5 million gpd, and
- The pending upgrade of the municipal wastewater treatment facility.
- Electric upgrade

Any one of these projects is an enhancement to the community. Taken together, they serve to increase the community's capacity to accommodate additional growth in a well planned manner, attract new visitors to the community, expand cultural and recreational opportunities for residents and visitors, and reinforce the village as the community's commercial, civic and residential center. This can form the foundation for future economic and community development efforts.

## **Community & Economic Development**

Effective community and economic development programs typically require the cooperation of a variety of groups and individuals. Most important is that municipal officials and local businesses communicate openly and work together in a cooperative and coordinated fashion. The following are key participants in a coordinated economic and community development program.

- **Town & Village Government**, primarily the office of the Municipal Manager, who has been designated as the community's economic development point person. In addition, the joint town and village planning commission has assumed a more active role in long range planning and community development.
- The **Northfield Business & Professional Association** (NBPA), whose members are volunteers representing a variety of local business and community interests. After a period of limited activity, the NBPA has undergone a resurgence in recent years and is actively working to promote a better economic climate in the community.
- **Norwich University**, which, as the largest local employer, plays a unique role in the community.

In addition to local groups and individuals, several regional organizations are available to provide a range of assistance to local officials and businesses. Such organizations include the **Central Vermont Economic Development Corporation**, which assists with business recruitment, financing, and marketing, and the **Central Vermont Revolving Loan Fund**, which provides financial and technical assistance to local businesses that employ persons of low and moderate income. Other programs available to local businesses include various tax credits and property tax abatement (from the education portion of the property tax bill) may be available through the **Vermont Economic Progress Council** (VEPC), which grants incentives to eligible businesses.

To date, no comprehensive economic development strategy or program has been developed in Northfield. However, the increased emphasis on the community's economic needs has prompted local officials to assume a more active role regarding business development. Typically, successful economic and community development programs are tailored to meet the unique needs and opportunities present in a particular community. In the case of Northfield, opportunities that should be the focus of future economic development efforts include:

- Enhancing the vitality of the downtown
- Reuse and development of existing industrial and commercial facilities
- Continued support for Norwich University
- Targeted infrastructure development to maintain capacity for new development

## **Downtown Vitality**

Northfield's earliest years were marked by the creation of four district villages. With the establishment of the woolen mill industry and subsequent opening of the railroad, Northfield (formerly "Factory") Village emerged as the town's dominant commercial, industrial, civic, and residential center. At the core of the Village is the downtown area, which centers around the historic common.

The economic vitality of the downtown is an issue of widespread public concern. The need to focus the community's attention and resources on the downtown was one of five top priorities identified during the January 2002 Northfield Community Visit sponsored by the Vermont Council on Rural Development. Participants at the community visit emphasized the need for a downtown planning committee and called attention to the *Northfield Village Downtown Plan*, prepared by the Cavendish Partnership in 1997.

The 1997 downtown plan specifically addressed many of the concerns and suggestions raised during the community visit. Based upon background analysis, community input and market study, the downtown plan set forth a conceptual master plan that included several initiatives for improving the vitality and economic climate in the downtown. Key recommendations include:

- Enhancement of physical connections between the downtown and the University through the creation of walking/bicycle path along Dog River, and associated improvements to a University owned "eco-park."
- Better organization and more efficient use of the Northfield Business Park, with the objective of better integrating this area with the historic downtown.
- Consolidation of municipal offices into a new municipal center, with the secondary benefit of transferring existing municipal space to a private user. In 2002, the Vermont legislature agreed to transfer ownership of the old Armory – located in the core of the downtown – to the municipality for public use.

- Redevelopment of the Cetrangolo parcel, which is well situated to serve as a cornerstone for downtown development efforts. While several possible uses for this parcel exist, downtown lodging facilities have been identified as priority by some local officials and business leaders.

Table 5.2 Northfield Downtown Space Inventory			
Use	# of users	sq. ft.	% of total
Warehouse/Wholesale/Manufacturing	11	81,214	33%
Office	26	74,637	30%
Retail/Services	28	37,771	15%
Public	6	19,298	8%
Lodging	1	4,350	2%
Vacant	3	16,610	12%
<b>TOTAL</b>	<b>78</b>	<b>245,079</b>	<b>100%</b>
Source: Northfield Village Downtown Plan, 1997			

- The adaptive reuse of the Gray Building (former school) for community services (e.g., elder and child care, social service outreach programs). In 2002, the community received a community development grant to study the feasibility of rehabilitating the building for various uses. The results of this study were compiled in a Feasibility Assessment report dated February 2003. In July 2003, it was purchased by the Gray Building Coalition organization.
- Greater viability of downtown retail establishments and related commercial services (e.g., restaurants, personal services) through a variety of parking, lighting, and streetscape improvements.
- Improvement of the streetscape to maintain and enhance South and North Main Streets and the area around the Common.

Putting together a comprehensive package of improvements as called for in the downtown plan is an obvious challenge to the community. Fortunately, the Vermont downtown program makes available a variety of financial and technical resources to communities that plan for the revitalization of downtowns, villages, and community centers.

Since the downtown program was launched, several of Vermont's largest cities have secured downtown designation. The goals and benefits of the downtown program are not limited to cities, however, and many smaller village centers are also eligible. Designating a portion of Northfield Village as a downtown district would provide greater access to funding for a variety of infrastructure and capital improvement projects, and would allow for the town to recapture some tax revenues that would otherwise go to the state.

### **Norwich University**

Norwich University serves as an important economic engine within the community. Not only is the University the town's largest employer, but also the student population accounts for approximately 25% of the town's residents.

Employment levels are projected to stay roughly constant, with between 480 and 500 employees. As stated in Chapter 4, university officials have projected an increasing enrollment. Strengthening physical connections to the college with the development of a path along the Dog River should serve to enhance the vitality of downtown businesses.

With recent on-campus construction, including the Kreitzberg Arena and the National Guard Armory, it is likely that the University will attract an increasing number of short-term, non-student visitors. Added traffic – including short-term visitors and larger student populations – should also support local retail businesses and related amenities, such as restaurants and lodging facilities.

Other physical improvements may occur as a result of the strategic planning process currently underway. Local officials have been involved in that process, and have maintained open communication with University officials on a variety of issues of mutual concern. Efforts to include the university in future discussions regarding community and economic development would not only ensure open communication, but also would take advantage of the human resources that the University has to offer the community.

Finally, the presence of Norwich University, and its well-educated workforce, creates additional opportunities for economic development beyond providing educational services. Opportunities for collaboration between businesses, the municipality, and the university may strengthen local entrepreneurial efforts. Alumni who remain committed to the University – and the community – may also be a resource that could benefit development efforts in Northfield.

### **Industrial & Commercial Development**

Physical reminders of Northfield's industrial history are plentiful. The former Cabot facility, several buildings within the Northfield Business Park (railroad property) and the Nantanna Mill have been used and reused for a variety of industrial and commercial activities. In addition, the Bean Industrial Park – established in 1995 – includes eight building lots served by municipal water and sewer. Additional land adjacent to the park is available for expansion. Anchoring the park on the only developed lot is the 53,000 square foot Cabot Hosiery facility, which was relocated from its former Main Street location with the assistance of a community development grant from the state. The former Cabot facility has recently been renovated for retail use.

The Bean Industrial Park, Nantanna Mill, and Northfield Business Park all offer a variety of facilities for the location and/or expansion of many types and sizes of industries and businesses. Presently, these areas are included in the regional database of available commercial and manufacturing space, and are marketed by the Central Vermont Economic Development Corporation. The community has designated these areas as industrial sites within local zoning bylaws, which allow a wide range of commercial and industrial uses. In addition, all of these facilities are presently served by municipal water, sewer, and three-phase power, and have good access to Route 12– the principal arterial serving the community.

In addition to the sites in and around the Village, the town has designated land in the vicinity of the Route 12/Route 64 intersection as an industrial district under current zoning. The intent of this designation was to take advantage of the area’s convenient access to I-89 (via Route 64). Steep terrain, the lack of municipal water and sewer, and the predominance of single-family homes in the vicinity may, however, undermine the potential transportation advantages.

### **Infrastructure Improvements**

Issues associated with community facilities and services are addressed in detail in Chapter 7, and transportation is addressed in Chapter 6. The local economic climate is, however, partly dependent upon the availability of infrastructure, including transportation facilities. It is critical that planning for community facilities, transportation and land use be integrated with the community’s economic development goals.

Several infrastructure needs associated with the downtown were described above. Examples of other key considerations in Northfield, which are addressed elsewhere in this plan, include improvements to Route 12 north of the Village to provide a safer, more efficient highway access to the Barre-Montpelier area; protection of the municipal water supply from potential contamination; and. upgrade of the wastewater treatment facility.

Finally, it should be noted that business decisions regarding location or expansion are made by entrepreneurs who may be influenced as much by the amenities, or quality of life, offered by a particular community. Maintaining Northfield’s unique character, ensuring that the community is a pleasant place to live, work and go to school may be the most important economic development policy the community can pursue.

## **5.4 Economic Development Goals, Policies & Tasks**

### **Goal**

*A strong local economy characterized by well paying jobs for area residents, a vibrant downtown, business opportunities for local entrepreneurs, and a broad tax base.*

## ***Policies***

- 1) Encourage strongly the expansion of existing businesses, and establishment of new businesses that pay a livable wage and reinforce the community's historic settlement pattern are strongly encouraged.
- 2) Expand municipal efforts to plan for and promote economic and community development, including efforts to:
  - Improve the local economic climate and quality of life;
  - Support the expansion of existing businesses;
  - Recruit new businesses to the community which are compatible with the goals and policies of this plan;
  - Focus efforts to strengthen the vitality of the downtown;
  - Identify and secure funding sources from regional, state, federal and private sources to support community development activities;
  - Strengthen relationships between existing businesses to create an environment of mutual reliance in the community.
- 3) Support reinvestment and revitalization of downtown properties to enhance the economic vitality of the downtown as the community's civic, cultural, and commercial center. To this end, the implementation of the Northfield Village Downtown Plan is strongly encouraged.
- 4) Encourage additional industrial development within the Bean Industrial Park.
- 5) Support the transfer of railroad property adjacent to the downtown to private development interest, either through purchase or long-term lease, for activities that complement the downtown through the creation of compact, mixed use development.
- 6) Encourage a campus for the establishment of the National Center for the Study of Cyber-Terrorism and Cyber-Crime, in association with Norwich University. The Center should occupy a location in or adjacent to the Village, where utilities and infrastructure already exist, or in a location to which the existing utility would be extended. Financial incentives associated with the Center and made available to the community should be used to implement the goals and policies of this plan.
- 7) Continue to support regional development organizations to the extent that those organizations are serving the needs of local businesses and are making a positive contribution to enhancing Northfield's economic climate.
- 8) Reinforce Northfield as a destination for visitors by encouraging the development of a downtown hotel, to be designed to enhance the area's pedestrian-scale and urban fabric.
- 9) Reinforce, through the capital budgeting and facility allocation policies, existing land use and development policies by focusing economic activity in designated village centers, industrial districts and Norwich University.

- 10) Encourage the re-use of the Gray Building in accordance with the February 2003 Feasibility Assessment, including the municipality acting in partnership with the Gray Building Coalition to secure grant funding for the project and assist with developing a long term ownership structure that best serves the community.
- 11) Support efforts of government and educational institutions to ensure training is available on business issues relevant to local small businesses.

## **Tasks**

- 1) Establish a position of Community Development Director, either as a municipal employee accountable to a Community Development Board composed of local business representatives and municipal officials, or as the director of a newly created Economic Development Corporation. To ensure success, such position and organization should be supported by annual town property tax appropriations for a minimum of three years. [Selectmen, Trustees, Staff]
- 2) Assist the Gray Building Coalition to carry through on the recommendations of the February 2003 Feasibility Assessment. [Selectmen, Staff]
- 3) Work with the Northfield Business & Professional Association and the Downtown Study Committee to revisit, update as needed, and implement the 1997 Downtown Plan. [Planning Commission, Northfield Business & Professional Association, Staff]
- 4) Explore designation of the downtown as a Vermont Downtown Development District. [Planning Commission, Staff]
- 5) Convene a meeting of regional development officials to consider how their services can be better focused on Northfield to expand local utilization of available programs and services. [Planning Commission, Staff]
- 6) Maintain regular communication with officials at Norwich University to ensure the successful establishment of the Center for the Study of Cyber-Terrorism and Cyber-Crime, and to take full advantage of that center through an upgrade to the communities telecommunications infrastructure and the revitalization of the downtown through targeted infrastructure improvements [Selectmen, Trustees, Planning Commission, Staff]

## CHAPTER 6. TRANSPORTATION

### 6.1 Overview

Northfield's historic development has been shaped by transportation, especially the railroad in the 19<sup>th</sup> century followed by the automobile in the 20<sup>th</sup>. The location, condition, and capacity of the regional transportation network and transportation facilities and services continue to influence Northfield's land use patterns, economic development, and the use of resources. This chapter provides an overview of how the existing transportation network functions and how it might be improved.

### 6.2 Travel Patterns

As is the case throughout Vermont, the private automobile is the dominant mode of transportation in Northfield. According to the 2000 Census, 68.6% of Northfield's labor force commuted to work in a single occupancy vehicle (i.e., they drove alone). A relatively high percentage (14.7%) walked to work, while 12.3% carpooled. Less than 1% bicycled on a regular basis, and 3.0% worked at home. The average commute in 2000 was 21.1 minutes (up from 18.9 minutes in 1990).

As mentioned in Chapter 6, nearly half of Northfield's labor force worked in town in 1990 (the last year for which data is available), while the majority of those commuting out of town headed to Montpelier, Barre City or Town, or to Berlin. Given this reliance on the automobile, the location and condition of the town's highway network is of primary concern when considering Northfield's transportation network.

### 6.3 Roads & Highways

Northfield has over 93 miles of public highways, including over 82 miles of municipal roads. A breakdown of roads, by classification, function, and location, is presented in Table 6.1.

#### State Highways

The principal arterial highway serving Northfield is Route 12, which follows the Dog River and connects the community with Berlin, Montpelier, and several important transportation corridors to the north, and Randolph to the south. Route 12A diverges from Route 12 just south of Northfield Village and provides access to Roxbury before rejoining Route 12 at Randolph. These highways run parallel to one another until they re-converge in Randolph. Route 12A provides access to the neighboring Town of Roxbury.

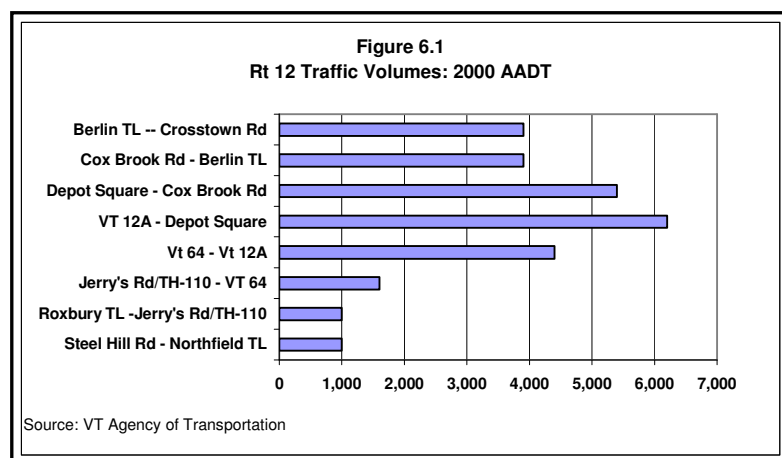
**Table 6.1**

#### **Mileage Summary of State & Local Roads**

Classification	Function	Mileage
State Highway	Arterial	11.1
Class 1 (Village)	Arterial/Collector	1.2
Class 1 (outside Village)	Arterial	0.9
Class 2 (Village)	Collector	0
Class 2 (outside Village)	Collector	4.8
Class 3 (Village)	Local Access	9.5
Class 3 (outside Village)	Local Access	57.47
Class 4	Access/Recreation	8.34
	<b>TOTAL</b>	93.7



Traffic volumes on **Route 12** are heaviest in the Village, especially in the vicinity of Depot Square. The highest volumes outside of the Village are along the segment of highway between its intersection with Route 12A and Route 64 – which provides access to Interstate 89 – and north of the village into Berlin. Traffic south of the Route 64 intersection is relatively low (see Figure 6.1).



Traffic on Route 12 to the north of the Village has declined in recent years, with the Average Annual Daily Trips (AADT) between Depot Square and Cox Brook Road declining from 5,600 trips in 1986 to 5,400 trips in 2000, a reduction of 3.6%. North of Cox Brook Road, the AADT declined from 4,950 trips to 3,900 trips in 2000, a reduction of over 21%. Volumes south of the Village, however, have increased over the same period. Most significant has been the increase in traffic volumes along the segment of Route 12 from its junction with Route 12A to the intersection with Route 64,

which has increased 21.2% from 3,640 trips in 1986 to 4,400 trips in 2000, indicating that a growing number of motorists are opting to use I-89, rather than Route 12, for out-of-town travel.

Although Interstate 89 brushes Northfield, Exit 5 is located just east of the town boundary in Williamstown. This important highway is accessed via **Route 64**, a limited access highway constructed as part of the interstate highway system. Route 64 intersects with Route 12 approximately 2.7 miles west of Exit 5. Traffic on Route 64 has increased steadily in the past 15 years. According to VTrans, traffic along the portion of highway between Route 12 and the Williamstown town line increased from 1,630 trips in 1986 to an estimated 4,500 trips in 2000 – an increase of 176%.

Traffic on **Route 12A** has also increased, with traffic volumes in 2000 estimated to have reached 2,100 trips between Lovers Lane and Stony Brook Road (TH-8), and 1,800 trips between Stony Brook and Felchin Road (TH-6). These changes, along with increased traffic volumes on Route 64, indicate the growing importance of Route 12A and Lovers Lane as key connections to I-89 from Northfield and surrounding communities.

Each of the three state highways is in relatively good condition and no major construction projects or highway upgrades are presently included on the state or regional transportation improvement programs. The condition of Route 12 north of the Village, however, does raise concerns regarding traffic safety, access and potential disincentives for future economic development in the community. The portion of the road in the vicinity of Northfield Falls is characterized by:

- Narrow shoulders and inadequate bicycle lanes
- Several sharp curves
- Numerous locations with restricted sight distance, and
- Ledge outcroppings within the highway right-of-way which inhibit sight distances and pose a risk to motorists, prevent the installation of bicycle lanes and make snow removal difficult which exacerbates potential safety hazards

The town would like to work with VTrans to develop a plan to upgrade this section of highway, including some widening and/or straightening of travel lanes and shoulders, ledge removal and the installation of traffic calming to mitigate potential adverse impacts of such an upgrade.

## **Municipal Roads**

Northfield maintains approximately 82 miles of local roads. These include heavily used regional collectors, quiet streets serving village neighborhoods, lightly used rural roads providing access to a few homes, and a few roads not maintained for year-round traffic. The road network includes 47 bridges (five in the Village), including six covered bridges addressed separately below.

In Vermont, municipal roads are designated as Class 1, 2, 3, 4, or trail. Class 1 roads include all state highways under the jurisdiction of municipalities – typically state routes through village centers. Class 2 and 3 roads are defined for the purposes of state aid and must be negotiable, under normal conditions, year-round by a standard passenger car. The state determines which town roads are Class 2, which typically provide access to neighboring towns. Class 4 roads are not generally maintained on a year-round basis. Class 3 and 4 roads are designated by the local Selectboard. Roads are shown by classification and surface type on the Transportation Map. Currently, 12 miles of town road outside of the Village are paved, and all but one mile of road in the Village is paved.

Until 1997, VTrans applied the national American Association of Surface and Highway Transportation Organizations (AASHTO) highway design standards to roads in the state. In response to growing concern that AASHTO standards were inappropriate for Vermont's small villages and rural settings, the state prepared and adopted *Vermont State Standards for the Design of Transportation Construction, Reconstruction and Rehabilitation of Freeways, Roads & Streets*. These include standards for roads serving urban, village, and rural contexts that are designed specifically for Vermont. These standards should be applied to future upgrade and construction of state, town, and private roads in Northfield.

Although Northfield's roads are generally in good shape and adequate to accommodate current traffic volumes, several improvement projects are planned to address existing deficiencies. Projects listed in Table 6.2 are included on VTrans "Transportation Improvements Projects" (TIP) list and are in some stage of project design and scheduling. Other projects identified by the municipality but not included on the TIP are also shown.

For the most part, identified improvement projects include the rehabilitation or replacement of bridges. These improvements are part of an aggressive effort on the part of the town over the past several years to upgrade several deficient bridges. It is anticipated that these projects are eligible for the states town highway bridge program, which provides 90% state funding. The town has allocated money in reserve funds on an annual basis to fund bridge improvements.

**Table 6.2**  
**Summary of Road & Highway Improvement Projects**

<b>Projects on VTrans TIP</b>	<b>Description</b>	<b>Schedule</b>	<b>% State Funding</b>
Bridge #46/TH29	Replace bridge over Union Brook	Completed	90%
Bridge #54/TH12	Replace bridge over Cox Brook	Completed	90%
Bridge #50/TH25	Reconstruct bridge over Stony Brook	Unscheduled	90%
Bridge #59/TH60	Reconstruct bridge over Stony Brook	Unscheduled	90%
<b>Projects identified by municipality</b>	<b>Description</b>	<b>Schedule</b>	
Lovers Lane upgrade	Upgrade to accommodate Rt. 64 – Rt. 12A cut-off	Unscheduled	State share
Main Street bridge	Reconstruct bridge over Dog River	Unscheduled	State share
Route 12/Northfield Falls	Ledge Removal/install bike lanes	Unscheduled	State project

Other projects, including the proposed ledge removal on Route 12 north and the need to upgrade Lovers Lane to accommodate increasing through traffic using this road as a short cut from I-89 to Route 12A south to the Roxbury Mountain Road, would need to be undertaken by VTrans under a different funding program. Both of these projects should, however, be supported, and funded by VTrans because they are either part of, or directly serve, the state highway system. The Lovers Lane project is especially critical to the community, given its use as a regional collector.

In addition to existing deficiencies, it is important that the municipality monitor development to ensure that the local road network is not overburdened by anticipated growth in the community. An effort to monitor traffic and road conditions on an ongoing basis, and standards to identify and mitigate the impacts of new development on the road network, can avoid future problems.

### **Covered Bridges**

The five covered bridges currently in use in Northfield deserve special note. Three of these bridges are located along a half-mile segment of Cox Brook Road – the highest concentration of covered bridges along any road in Vermont. Each of the five bridges continues to provide the function they were designed for in the 19<sup>th</sup> century, which not only contributes to the community's character but also represents a wise financial investment. Two of the bridges recently underwent minor repair, including new roofs, and no major upgrades are anticipated in the near future other than routine maintenance. It is important that there be continued protection from damage caused by overweight and/or oversize vehicles. All of Northfield's covered bridges are historic structures and are now eligible for federal funding to cover the cost of future rehabilitation.

### **Road Maintenance**

Maintaining and enhancing the local road network in a safe and cost effective manner is an important community responsibility. The town highway department is responsible for maintaining both town and village roads, the latter of which is funded through an annual contract with the Village.

The total cost of road maintenance to the town is second to education in terms of annual expense to the community. In 2002, the town budgeted \$783,750 for the highway department, of which approximately 65% was funded through town property taxes, 17% through a maintenance agreement with the Village, and 19% through state highway aid and miscellaneous fees and interest.

The highway department is based out of the town garage, located just off Route 12 just north of the Village. In addition to the highway department, the garage also houses the Ambulance Service and provides storage for other municipal departments and social service agencies. Recent renovations included a roof replacement, new garage doors, and a new heating system. With the exception of the need for some site work, including resurfacing the parking and work-area around the garage, the facility is adequate to meet the foreseeable needs of the community.

An ongoing maintenance issue is the need for a stable and affordable source of gravel to maintain the town's roads (almost all Village roads are paved). Fortunately, there are local vendors that have minimized the high cost of hauling that has driven up the cost of gravel in other communities. The long-term availability of gravel, however, is not guaranteed. The town may want to consider the acquisition of a gravel source to avoid future gravel shortages and/or severe price fluctuations.

To stabilize expenditures from year to year, the town maintains reserve funds for capital improvements, including road construction, reconstruction and paving, bridge repair and replacement, and equipment replacement. In addition to road and bridge projects described above, the current capital improvement plan anticipates replacing the town's 1987 grader in 2004 and the 1994 dump truck in 2004. The town also purchased a new loader in 2001.

### **Highway Access Management**

The frequency, location, and design of highway accesses – or curb cuts – have a direct bearing on the safety and efficiency of both town roads and state highways. The design of curb cuts also is important with regard to stormwater management and road maintenance. Managing access can improve safety and better maintain highway capacity over time. Several techniques may be applied through Northfield's zoning regulations, road policies and ordinances, and additional land use regulations (e.g., subdivision regulations). These include requirements for:

- Minimum sight distance at a driveway or street intersection,
- Maximum number of driveways per lot,
- Mandatory shared driveways,
- Maximum width of curb-cuts,
- Minimum and maximum driveway lengths,
- Minimum or maximum on-site parking, shared-parking, and parking design,
- Minimum area for loading and unloading, and
- Landscaping and buffers to visually define and enhance access points.

Local development regulations (e.g., zoning, subdivision regulations) and road ordinances are effective tools to manage access. Future attention to access management, and the implementation of the strategies listed above, will enable local boards to balance the needs of motorists, pedestrians and bicyclists and improve highway safety and efficiency.

## **Traffic Management & Traffic Calming**

As stated above, state and local roads are generally adequate to meet current demand. Over time, however, traffic volumes are likely to increase due to the cumulative impacts of ongoing, small-scale development. Efforts to monitor traffic volumes on an ongoing basis would help the community plan for future capacity deficiencies.

One category of techniques to maintain relatively slow traffic speeds in settled areas, enhance pedestrian safety, and improve the overall environment is often referred to as traffic calming. Such techniques include narrow vehicle traffic lanes, wide sidewalks, medians, on-street parking, roundabouts, raised and/or textured crosswalks, bulb-outs, street-tree plantings, and street furniture. Traffic calming is especially important along state highways and town roads in Northfield Village, Northfield Falls and in Northfield Center.

### **6.4 *Parking***

#### **Downtown parking**

Public parking in downtown appears adequate to meet current demand. Better management and/or organization might make more efficient use of available space. Should current demand increase, however, the Village and local businesses may need to explore options for expanding parking. Possible causes of increased demand may be a more intensive use occupying the old armory building or additional in-fill development in the downtown area.

The Central Vermont Regional Planning Commission (CVRPC) has assisted other communities in the region to study parking demand and availability in villages and downtowns, and may be available to assist Northfield with the preparation of a downtown-parking plan. Such a plan should look at existing and anticipated demand, the current use of available spaces and, if appropriate, alternatives for creating additional public parking opportunities.

Outside of the downtown area, land uses that require access by employees, customers, residents, and/or visitors are required to provide off-street parking adequate to meet anticipated demand. Current parking requirements should be reviewed to determine whether existing standards are sufficient. In addition to the number of spaces required, the location, configuration, and design of parking facilities can have a significant impact on the community's character, as well as on the safety of motorists and pedestrians. As the population ages more handicapped parking should be considered.

#### **Residential Neighborhoods**

One issue of special concern is the extent to which the conversion of single-family homes in historic neighborhoods to multi-family housing can limit the availability of on-street parking. The Town and Village presently enforce a parking ordinance to minimize such impacts, and zoning standards could require that adequate off-street parking is provided for all dwelling units. The continued update and enforcement of these tools should avoid problems for residents and homeowners in Village neighborhoods.

## **Commuter Parking**

The only formal commuter parking lot serving local residents is located adjacent to Exit 5 of I-89 in Williamstown. VTTrans is planning to upgrade and expand this facility in the coming years, which should benefit Northfield commuters. The town, in conjunction with the Central Vermont Regional Planning Commission, should also explore the feasibility and benefits of establishing a small commuter lot within the Village to serve commuters headed north on Route 12 or west to the Mad River Valley.

## ***6.5 Pedestrian & Bicycle Circulation***

In Northfield Village, where historic settlement patterns reflect a pedestrian scale and orientation, an extensive sidewalk network exists. The presence of the existing sidewalk network has a significant impact on traffic volumes, as indicated by the nearly 15% of local commuters who walk to work – a rate that is significantly higher compared to the 5.2% of commuters who walk to work statewide.

In recent years, many sidewalks that had fallen into a state of disrepair were upgraded, and some key sidewalks were extended to strengthen pedestrian connections. Recent improvements include the extension of sidewalks to the school, which provides better access for students. This project was funded in part through a VTTrans enhancement grant.

The extension of the existing sidewalk system, an/or the creation of connected walking and bicycling paths outside of the Village, could decrease congestion and increase options for local residents, including children, students, and the elderly. A priority connection is a multi-purpose path linking Memorial Park with Northfield Falls Recreation Fields. Such a path, which would preferably run parallel to Route 12 outside of the highway right-of-way, would also provide a connection from the Village to the Bean Industrial Park. Another possible connection would involve the construction of a path adjacent to the Dog River, providing an additional link from the village to Norwich University. This was recommended in the downtown study (see Chapter 5.)

There are no sidewalks outside the village. Most of Northfield's rural roads, both paved and unpaved, have little or no shoulder. Because of generally low traffic volumes and vehicle speeds, however, they are generally safe for walking and bicycling. Future increases in traffic volumes or speeds could result in safety concerns. One opportunity to expand walking and cycling opportunities outside of the village includes the expansion of bicycle lanes, or construction of an off-street bicycle path, along Route 12 and Route 12A concurrent with the planned extension of municipal sewer lines.

## ***6.6 Transit & Public Transportation***

### **Local Transit**

Until recently, local public transit was provided by Central Vermont Wheels®, which provided a free, fixed-route service linking the Norwich University Library with Depot Square and the Senior Center. Door to door service was also provided by reservation for a fee within the community. In 2001, over 6,000 rider/trips took advantage of this service. Management problems at Wheels in 2002/2003, however, led to the organization's filing for bankruptcy and subsequent suspension of service.

## **Regional Transit**

Transit service is presently provided by Chittenden County Transit Authority (CCTA) under contract with VTrans. Daily transit services link Northfield Village and Norwich University with Montpelier. Service includes two early morning commuter runs, three mid-day runs, and four afternoon/early evening runs. Fixed stops include the Senior Center, Norwich Library, East and Main Street and limited runs to the Bean Industrial Park. Door to door service is also available with advance request. In 2001, over 4,500 commuter/trips took advantage of these services.

It is not clear whether CCTA will continue to function as the transit service provider for the community and regions. The permanent resumption of both local and regional transit service by a stable, well-managed provider is a high priority for the community, and is a necessity for the relatively large number of Northfield residents that lack private transportation options.

## **Inter-Regional Bus Service**

The nearest long distance bus services are provided by Vermont Transit, which stops in Montpelier and Barre. Vermont Transit provides bus service to major cities primarily north and south of Northfield along the I-89 corridor.

## **Rail Service**

The New England Central (formerly “Central Vermont”) Railway, Inc. owns and maintains the railroad network through Northfield. Historically, the railroad provided important freight service to Northfield industries, although such use is presently limited. The availability of freight service, however, has the potential to influence the location of future industries

Amtrak presently provides passenger train service. The *Vermont* provides daily service to and from New York and Washington D.C., with trains departing mid-morning and returning in the evening. Although the trains travel through Northfield, the nearest scheduled stops are in Montpelier and Randolph. Given the high student population and likelihood that transient visitors to Northfield will increase in the coming years, Amtrak should include scheduled service to the Village.

## **Air Transport**

The Burlington International Airport (BIA), located in South Burlington, provides regional and international airline service. BIA has expanded both facilities and service in recent years. Manchester, N.H., airport also provides regional and international flights. Due to service from discount airlines, the Manchester airport has become popular with Vermont travelers. Commercial service also is provided by the Knapp Airport in Berlin.

## **6.7 Transportation Goals, Policies & Tasks**

### **Goal**

*The maintenance and enhancement of an efficient, cost effective, and multi-modal transportation network to serve the needs of Northfield residents, visitors, and businesses*

### **Policies**

- 1) The Town and Village road systems should continue to be maintained in a manner that maintains safe and efficient traffic conditions for current and future demand.
- 2) Major road improvements and associated capital improvements will continue to be scheduled through the municipal capital budgeting program, and securing alternative funding sources to finance transportation projects will remain a priority of the town.
- 3) New roads, including private roads serving new development, shall be constructed to the *Vermont State Standards for the Design of Transportation Construction, Reconstruction and Rehabilitation of Freeways, Roads & Streets*. Construction to such standards, however, does not obligate the Town or Village to take over new roads. Decisions on the acceptance of new roads shall be at the discretion of the Village Trustees or Town Selectmen. Private roads will only be accepted if it is clearly in the public interest and will not place an undue burden on local taxpayers.
- 4) Northfield's five covered bridges not only serve an important transportation function – they contribute to the community's heritage and unique character. These bridges should be maintained to continue serving their historic function.
- 5) To ensure pedestrian safety and the long-term efficiency of the local road network, access to state and local roads should be carefully controlled and existing deficiencies (e.g., excessive or oversized curb-cuts) eliminated.
- 6) New development shall not result in adverse impacts to traffic or pedestrian safety of a significant decline in the level of service of the impacted road network. The cost of mitigation to avoid such impacts will be the responsibility of the developer.
- 7) Northfield's transportation needs should be considered when decisions regarding the regional and statewide transportation network are discussed and made.
- 8) Road improvements and development projects in Northfield Falls, Northfield Village, and Northfield Center should maximize pedestrian safety through site design and traffic calming.
- 9) Safety improvements to Route 12 north of Northfield Village should be implemented, to include ledge removal, road widening, and the installation of pedestrian/bicycle lanes.



- 10) Lovers Lane, which is subject to deterioration due to through traffic accessing I-89 to and from Route 12A south of Northfield, should be upgraded and maintained with the assistance of the Vermont Agency of Transportation.
- 11) The continued operation of a local and regional transit system at a minimum level of service as was provided by Central Vermont Wheels® in 2001/2002 is critical to the economic and social well-being of Northfield and should be ensured.
- 12) Vanpooling and car-pooling opportunities for local commuters are encouraged, and should be supported through the provision of new or expanded state park & ride facilities at Exit 5 and in the Village.
- 13) The provision of an integrated and well maintained pedestrian and bicycle path network in and around the Village is a key feature of the local transportation network. This system should be expanded through path connections from Memorial Park north to Bean Park and Northfield Falls and south along the Dog River to Norwich University.
- 14) Parking in residential neighborhoods shall be controlled to prevent nuisances to residents of those neighborhoods stemming from excessive on-street parking.
- 15) New development should provide adequate off-street parking to accommodate employees, residents and/or patrons, unless the development is located in an area where alternative parking exists (e.g., off-site parking lot, on-street parking).
- 16) If feasible, passenger rail service (e.g., Amtrak) should be re-established with a stop in Northfield Village.
- 17) The feasibility of installing sidewalks in Northfield Falls and Northfield Center should be studied.
- 18) Improvements should be continued on the Village Common.

### ***Tasks***

- 1) Continue to designate a representative to the Central Vermont Regional Planning Commission's Transportation Advisory Committee (CVRPC-TAC), and be active in transportation proposals. [Selectmen]
- 2) Seek to have local project priorities identified in this plan placed on the regional and state Transportation Improvements Project (TIP) lists. [CVRPC-TAC representative]
- 3) Continue planning for pedestrian path improvements, and solicit Agency of Transportation funding assistance under the Enhancements Project Grant Program. [Staff]
- 4) Secure a qualified, long-term transit provider to replace Central Vermont Wheels®. [CVRPC-TAC representative, Staff, Selectmen]
- 5) Explore the feasibility of purchasing a municipal gravel pit to provide a long-term source of sand and gravel for municipal roads. [Selectmen, Staff]

- 6) Review existing land use regulations and consider whether revisions are needed to ensure that:
  - New development will not overburden local roads;
  - Adverse impacts to pedestrian and traffic safety will be mitigated or avoided;
  - Development within designated village centers will maintain pedestrian safety; and
  - New roads will be constructed in a manner that meets minimum standards so that roads are laid out in a manner that creates an interconnected road network. [Planning Commission]
- 7) Review municipal road policies and make revisions as needed to manage access in a manner that maximizes highway safety and efficiency and eliminates, over time, existing deficiencies. [Selectmen, Staff]
- 8) Establish a local transportation task force to begin planning for the improvement of Lovers Lane, as well as other critical transportation needs that may arise. [Staff]

## **CHAPTER 7. COMMUNITY FACILITIES & SERVICES**

### **7.1 Overview**

The Town and Village of Northfield provide or support a full range of municipal services to local residents and businesses. Each facility or service addresses a particular public need, which is partly determined by demographic and economic conditions. Depending on the type of facility and its capacity, changes in the composition or size of the local population, or the local economic climate, can affect the ability of the municipality, or service providers, to meet local needs.

This chapter briefly describes existing facilities and services and their respective capacities. It also describes associated costs and factors underlying municipal or public financing. Consideration of the capacity of existing facilities and services in relation to associated costs provides the foundation for shaping growth so that desired levels of service are maintained or enhanced without placing an undue financial burden on taxpayers.

### **7.2 Municipal Government**

Northfield consists of two municipal entities – Northfield Town, which encompasses all land within the municipal boundaries; and Northfield Village, incorporated in 1855, which is located in the center of the town. Village residents vote in both the town and village, and village landowners pay property taxes to both entities. Northfield's other historic villages were never incorporated as separate municipalities.

The town and village have achieved a high degree of cooperation over the years, and presently share many services and facilities. The town is governed by an elected five-member Board of Selectmen, while the village is governed by an elected five-member Board of Trustees. Both entities have a municipal manager form of administration and have opted to share a single Town/Village Manager for several years.

The town is responsible for emergency services (see below), recreation, planning and zoning, maintenance of property records and, under contract with the village, highway maintenance. The village operates the water and sewer facilities and electric utility (see Chapter 9). Most services that are open to the public, including the manager, town clerk, zoning administrator, public works supervisor and utility office are located in the municipal building on Main Street. The municipal building is owned by the village and is partly supported by rent paid by the town. Other services and facilities are located in and around the village (see Facilities Map).

Like most Vermont communities, Northfield is heavily reliant on citizen volunteers for many important government functions. In addition to the two governing bodies, the following town and village elected positions include:

- Town & Village Moderators    ▪ Delinquent Tax Collector    ▪ 5 School Directors, and
- Town Clerk/Treasurer        ▪ 3 Listers                                • 14 Justices of the Peace
- Village Clerk/Treasurer        ▪ 7 Library Trustees

In addition, several appointed positions depend upon volunteers to fulfill municipal functions, including a five-member planning commission, five-member board of adjustment and seven-member recreation board.

## **Cost of Government**

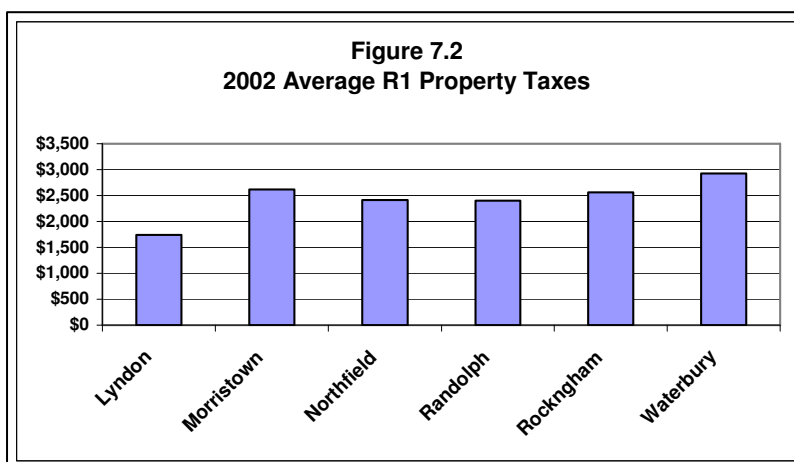
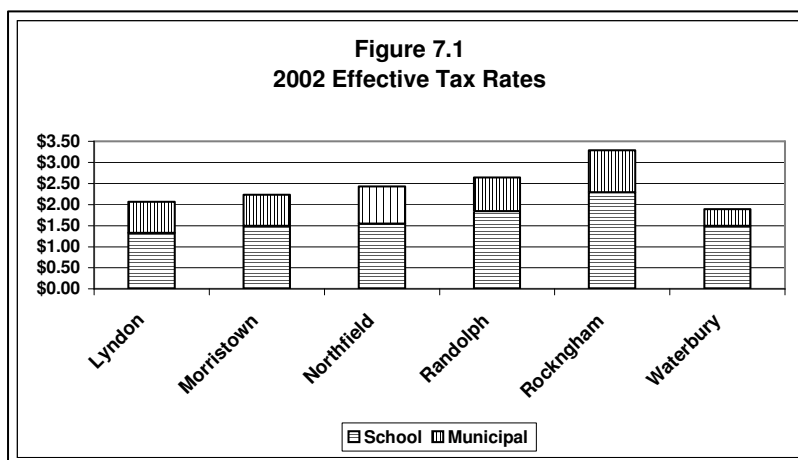
An issue of particular concern to Northfield residents is the local property tax burden. Partly as a result of Act 60, local education taxes in Northfield are comparable to those of surrounding communities (see Chapter 8).

Municipal taxes, however, are generally higher than in neighboring communities. This is largely due to the fact that Northfield residents enjoy a higher level of municipal service than most neighboring towns. Such services include a full-time police department, recreation facilities (including a municipal swimming pool), staffed fire and ambulance services, and exceptional road maintenance.

When compared with municipalities that share similarities with Northfield – such as a comparable population, the presence of a large tax-exempt property owner, an incorporated village, and/or a community that provides a broad range of public services and facilities – local tax rates are not unusual. A comparison of effective tax rates in selected municipalities that share with Northfield one or more of the aforementioned features is presented in Figure 7.1.

The effective tax rate is not, however, by itself an accurate measure of local tax burden. When compared with the average tax burden on residential properties with less than six acres (“R1” properties, the most common residential property in the state), Northfield’s relative burden is not out of line with comparable communities (see Figure 7.2).

Northfield’s tax rate is higher than those of neighboring communities because the Grand List includes a higher than average percentage of properties that are exempt by law from property taxes. Maintaining the balance between the obvious benefits of the university and the demand for services it places on the community will be an important component of the town’s ability to continue providing quality services without overburdening local property owners.



In addition, strategies aimed at promoting additional economic development, especially the creation of new industrial facilities in established industrial parks and the revitalization of the downtown (Chapter 5) should serve to expand the municipal grand list, thereby spreading the tax burden among a greater number of taxpayers. It should be noted, however, that few Vermont communities have managed to “outgrow” a heavy tax burden. Development strategies should be broadly focused on promoting activities that pay high wages and enhance the local quality of life, in addition to expanding the tax base.

Another important strategy for financing public facilities and services as efficiently as possible is generating alternative, non-tax revenues. The town and village have been aggressive in pursuing a range of grant programs from such sources as the Vermont community development program, VTrans “enhancements” program, VTrans local bridge program, Vermont municipal planning grant program, and other project-specific grant programs. In addition, the community has demonstrated an ability to raise private funds to support worthwhile projects, such as the recent expansion of the Brown Public Library that was supported, in part, with donations. Continued focus on alternative revenue sources as was currently done successfully by the Gray Building Coalition will continue to be an important local goal.

### **Capital Budget & Program**

Another strategy that the town and village have used effectively to stabilize spending – and therefore tax rates – has been capital budgeting and programming and the associated use of reserve funds. By anticipating the need for future capital projects, multiple purchases may be coordinated, and funds set aside in reserve accounts, to equalize the burden over several years. This avoids sharp fluctuations in local tax rates, allowing residents and businesses to plan ahead with a greater degree of certainty. In addition, the capital improvement program is a necessary tool to have in place, should the community consider enacting impact fees or require the phasing of large developments.

### **Village-Town Coordination**

The town and village have discussed the consolidation of village and town governments as a means of improving efficiencies. Past proposals to merge the two have been defeated by the voters. Providing, managing, and financing municipal services is an increasingly complex and challenging task. Since this trend is virtually certain to continue, it is necessary to raise the question of whether Northfield Town and Village should continue to exist as separate political entities.

At their annual joint policy review meeting in the Fall of each year, the Village Trustees and the Town Selectmen should review this question and determine whether the timing is appropriate for a merger study to be undertaken. If a merger study is undertaken and concludes that merger is advisable, the boards should present the question to the voters for their consideration.

Regardless of whether the two governments completely consolidate, they have made significant strides over the past two decades to cooperate and coordinate the provision of services and facilities. Today, responsibility for emergency services, recreation, municipal administration, planning and zoning, and road maintenance are shared. In 2002, the two governments strengthened this record of cooperation by entering into an inter-local agreement regarding the management of the wastewater treatment system capacity outside of the Village limits.

## **7.3 Emergency Services**

### **Fire Department**

The Northfield Fire Department is one of three emergency response providers serving the entire community. The department operates from the fire station in the village, located adjacent to the downtown on Wall Street. This facility is adequate to meet current and projected needs, although expansion may be needed if the fire department were to share a facility with the ambulance service (see below).

In 2000, the department responded to 140 calls, including grass fires, propane leaks, automobile accidents, and structural fires. The number of calls was considerably higher than the average of 99 calls per year experienced over the past five years. The department is a member of the Capital Fire Mutual Aid system, which obligates the department to assist neighboring departments in responding to major fires in exchange for assistance in fighting major fires in Northfield.

The fire department is presently staffed by 20+ volunteer firefighters, which is considered adequate to meet current needs. Firefighters are paid for time spent responding to calls and volunteer for training and administrative duties. Operating costs are funded through a combination of town allocations (\$49,690 budgeted in 2001), proceeds from the department's fundraising efforts, including the popular annual duck race, and state and federal grants.

Capital equipment is generally replaced on a ten-year cycle. In recent years, the department has upgraded its self-contained breathing apparatus, replaced its ladder truck, acquired a new pumper and thermal imaging camera, and improved the fire station. The town has established several reserve accounts to cover the cost of capital equipment replacement, including vehicles, although no major expenditures are anticipated within the next five years.

### **Ambulance Service**

The Town of Northfield supports a fully equipped, full-time volunteer ambulance service. In addition to serving the town and village, the ambulance service also responds to calls in Roxbury and parts of Berlin and Moretown. The service is operated by a full-time supervisor, part-time ambulance attendant, and 20+ volunteers with varying levels of state certification as Emergency Medical Technicians (EMTs). The service maintains two fully equipped rescue vehicles, a rescue vehicle. They recently upgraded their rescue capacity with the acquisition of a "jaws of life" extraction tool. The ambulance service presently operates out of space in the town garage.

In 2000 the service responded to 602 calls, including emergency responses, non-emergency transports and stand-by service at local events. The ambulance service is also responsible for maintaining the local “E-911” emergency response system (see below), and has incorporated the functions of the local health officer. Funding for the ambulance service comes from a combination of user fees, private fundraising, and municipal allocations, with approximately 70% of operating costs being covered by fees. The town budgeted \$143,830 in 2001 for operating expenses.

The most pressing capacity issue facing the service is limited daytime coverage due to a shortage of available volunteers. With regard to capital facilities, a reserve fund has been established to replace Rescue Unit 1 in the next five years. Other minor equipment needs include new defibrillators, which are also budgeted in the town’s capital improvement program.

An issue that has yet to be addressed is the need for a new location from which the ambulance service can operate more efficiently and effectively. Space at the town garage is limited, and conflicts exist between emergency response and maintenance operations on the same site. The most likely site for a new ambulance location is a shared facility with the fire department, which is possible with the expansion of the building presently housing the fire department. Plans for such an addition are only preliminary at this time. An important consideration is whether the ambulance and fire department should be co-located at an existing location, or whether the police department should also be located within a new public safety facility housing all emergency service providers.

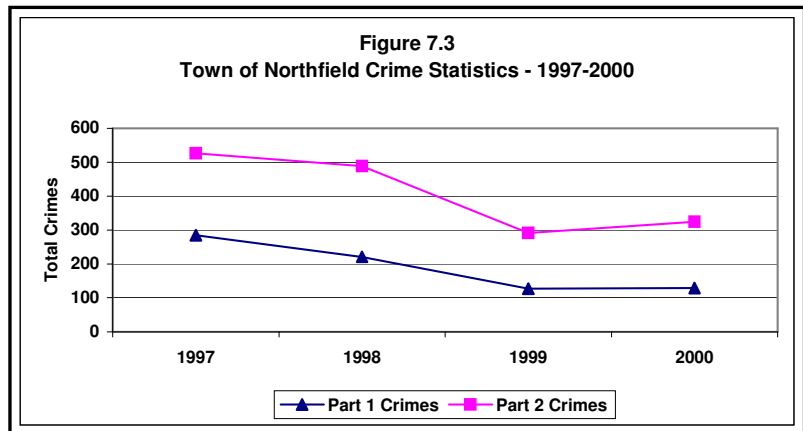
## **Police Department**

Law enforcement services are provided by the Northfield Police Department, a full-time, full service law enforcement agency serving the town and village. The department is staffed by a chief of police, six full-time officers, and occasionally part-time officers. All officers have received training at the Vermont Police Academy.

The department, which is served by an on-site dispatcher during regular working hours and a state police dispatcher after hours and on weekends, responds to an average of 1,840 calls per year. Annual operating costs for the department were budgeted at \$401,090 in 2001 – making the police department second only to the highway department in terms of total annual cost to the municipality.

It is difficult – if not impossible – to draw a correlation between criminal activity and police effectiveness. Crime statistics appear to indicate, however, that Northfield is a relatively safe community and is getting safer. In 1997, there were 50.5 “Part 1” crimes per thousand residents, and 93.3 “Part 2” crimes per thousand residents. Part 1 crimes include homicide, rape, aggravated assault, arson, and larceny. Part 2 crimes are of a relatively less serious nature, including forgery, vandalism and drug and alcohol offenses. In 2000, the number of Part 1 crimes per thousand residents had decreased to 22.3, while the number of Part 2 crimes had reduced to 56 per thousand residents (see Figure 7.3). This compares favorably with crime rates for Washington County as a whole, which in 2000 had experienced 32.1 Part 1 crimes and 100.1 Part 2 crimes per thousand county residents, respectively.

In addition to the police department, Norwich University provides private, on-campus security services. This has the effect of reducing the burden on the police department. The unique law enforcement needs associated with hosting a college in the community, however, place ongoing off-campus pressures on the department. As the university – and community – grow, it is likely that an additional full time officer will be required to maintain existing coverage; one addition has already been budgeted.



Major equipment used by the police department, including patrol vehicles, are replaced on a scheduled basis. A reserve fund has been established for that purpose. In addition to vehicle replacement, the most pressing facility issue facing the department is the need for building improvements. The department is presently housed in the old electric department building in the village. That facility does not meet current life-safety standards. No plans presently exist for renovating the police station, and such plans are partly dependent upon other discussions concerning the municipal offices and fire and rescue facilities.

### **Enhanced 911**

A state board supervises the operation of Vermont's Enhanced-911 system, instituted in the 1990s. This includes monitoring and auditing E-911 databases for street addresses, contact information and responders, the E-911 network, and four public safety answering points (PSAPs) which take calls, and forward them to local dispatchers. The system depends on regular information updates from municipalities to ensure complete coverage. In Northfield, the ambulance service is responsible for maintaining the local "E-911" emergency response system.

## **7.4 Water & Sewer Facilities**

### **Water System**

Northfield Village has maintained a public water system since establishing a water department in 1895. The system serves the entire village (approximately 750 users), in addition to approximately 300 users outside village limits in Northfield Falls and Northfield Center. Current demand for water is 520,000 gallons per day (gpd), 300,000 gpd of which is metered. Water is distributed through approximately 25 miles of water mains. In addition to providing potable water, the system includes 130 hydrants that provide a high level of fire protection with the service area.



The source of water is an automated system of wells adjacent to Route 12A and the Dog River, just south of the Route 12 junction. This system was upgraded in 2000. In addition to the upgrade, a new 1,000,000-gallon reservoir was constructed on Garvey Hill. The reservoir and well upgrade were funded through a \$1.9 million bond. As a result, the system has a three-day reserve capacity, improved fire protection capacity, and ample capacity to accommodate anticipated growth for the foreseeable future.

Additional upgrades and improvements to the water system are planned, along with steps to protect the existing water supply from potential future contamination. A source protection plan has been prepared, as required by state and federal regulations. The most significant threat to the water source identified is that posed by possible septic contamination from existing land uses, especially two mobile home parks in the vicinity. To avoid contamination, the wastewater collection system is planned to be extended to serve residential parcels within the source protection area. Other planned improvements include updating and/or replacing the 100-year old water mains and railroad crossings, improving system security, and planning for the replacement of the Cheney Farm Reservoirs in 2020.

## **Sewage Disposal**

Like the water system, Northfield's wastewater treatment facility is owned and operated by the village. Located adjacent to Route 12 in the village, the facility's service area includes the entire village and most of Northfield Center, including Norwich University.

Constructed in 1967, the facility has a treatment capacity of 1.6 million gallons per day (GPD), although current flows of 400,000 GPD from approximately 730 connections is well below the maximum capacity. Due to outdated treatment technology – and changes to industrial processes used in local textile industries that altered the composition of waste entering the system – the treatment facility is presently in violation of state wastewater discharge standards. Given existing and potential pollution of the Dog River, it is critical that the facility be brought into compliance with all applicable standards.

In 2002 the village passed a \$7 million bond to overhaul the facility and expand the local service area. The upgrade will reduce phosphorus levels and address other concerns to bring the facility into compliance with state standards. As a result, the maximum capacity of the treatment plant will be reduced to 1.0 million GPD, which will still allow significant capacity for new and expanded users. In addition, the service area will be extended south of the university to encompass the area surrounding the municipal well fields, eliminating threats to the municipal water supply.

No other facility improvements or expansions to the service area are anticipated. It has been suggested that the system extend to Northfield Falls; however the extension would require a forced main, and is consequently considered too costly at this time. Given the historic concentration of development in the area – all served by private, in ground septic systems – such an extension may be necessary in the future, should the need arise.

It has also been suggested that the system extend to the area adjacent to the Route 12/Route 64 intersection to serve possible industrial development. Such an extension would be cost prohibitive without a major user, however, and recent changes to state funding programs for sewer facilities would likely make such an extension to serve development outside of recognized growth centers ineligible for state and federal funding. Therefore, such an extension is likely to occur only if it is privately funded.

Outside of the sewer service area, residences and businesses are responsible for disposal of wastewater through in-ground systems. Since 2002, all new systems require a permit from the Vermont Agency of Natural Resources and must comply with state design standards. Alterations to existing systems currently do not require a state permit, although permit requirements will be phased in until such alterations fall under state requirements in 2007.

### **Water & Sewer Department**

Although the village maintains separate water and sewer departments for budgeting purposes, the two systems share supervisory, technical, and administrative staff. Presently, the water and sewer departments are staffed by four full-time workers who are cross-trained as licensed water and wastewater facility operators.

In addition to staffing needs, the water department has historically been located in the municipal building, while the sewer department has stored equipment and operated from the treatment plant. The consolidation of the operation at the treatment plant would result in a more efficient operation while providing options for more efficient use of the municipal building. If such a consolidation of maintenance functions occurs, however, residents should still have access to administrative staff in the Village for such purposes as paying bills and seeking information.

## ***7.5 Recreation***

Northfield residents enjoy a variety of public recreation facilities and programs not available in smaller communities. Recreation facilities and programs are overseen by a seven-member Recreation Board (appointed by the Selectmen) and several local volunteer organizations. The board hires a seasonal recreation director to coordinate the use of the pool by the summer program and the swimming program, and to oversee the operation of the municipal pool and maintenance of other facilities. Lifeguards and maintenance workers are also hired on a seasonal basis. The total recreation budget in 2001 was \$46,710.

The two developed recreation facilities are:

- **Memorial Park**, which includes the municipal outdoor swimming pool, a skateboard park, outdoor volley-ball court and playing fields suitable for baseball, softball, and soccer; and
- **Northfield Falls Fields**, which include playing fields suitable for soccer, Little League baseball and softball, as well as volleyball courts.

Combined, these facilities provide adequate space and facilities to serve existing demands for organized field space and less formal youth recreation. A short-range plan of the Recreation Board is to connect the two facilities with the construction of an off-road, multi-purpose recreation path. Such a path would also provide a pedestrian and bicyclist connection between Northfield Falls and Northfield Village. In addition, the proposed path connection between the downtown and Norwich University, and associated development of an “eco-park” along the Dog River, would further enhance recreation and transportation opportunities (see Chapters 5 and 6).

In addition to developed facilities, Northfield also boasts a well developed network of winter trails maintained by the Vermont Association of Snow Travelers (VAST), excellent fishing opportunities in the Dog River and tributary streams, good hunting (in large part made possible by private landowners); and hiking trails on Paine Mountain. Trails to Paine Mountain cross the municipal forest, lands owned by Norwich University and the local telephone company.

## **7.6 Solid Waste Management**

Northfield is one of 22 member towns forming the **Central Vermont Solid Waste Management District (CVSWMD)**, first organized in 1984. The district, governed by a board of supervisors made up of an appointed representative from each municipality, is charged with administering regional programs for the reduction, reuse, recycling, and disposal of solid waste. District planning and programs are funded primarily through a municipal per capita assessment (\$2.10 in FY03), and a surcharge on trash generated within the district (\$16/ton in FY03). Northfield’s municipal assessment, included annually in the Selectboard’s budget, was set at \$12,140 for 2001-02 – up significantly (41%) from previous years due to rising administrative costs.

### **Programs**

The district offers several programs to help member communities reduce, reuse and recycle solid waste, including recycling depots, hazardous waste collections, illegal dumping and burning programs, Green Up Day grants, an award-winning DeTox Family Program, junk car removal assistance, clothing reuse (“drop and swap”) events, and a reuse business grant program. The district also negotiates contracts with private entities for waste collection and disposal.

### **Recycling**

The District’s mandatory recycling ordinance went into effect in 1995. Each hauler licensed by the district to collect garbage must also offer collection of mandatory recyclables –newspaper, clear glass, #2 plastic containers, tin and aluminum cans and, in addition for businesses, corrugated cardboard and white paper. Many haulers and drop-off locations also collect additional materials, increasing the total diversion rate to around 30% of the waste stream. Locally, trash and recyclables are collected at the **Northfield Dog River Depot**, located at the Public Works Yard off North Main Street, which has been managed by the district since 1997.

## **Solid Waste Disposal**

The district has not yet undertaken a waste generation survey to determine the amount of waste generated from each of its member communities; however, nearly 40,000 tons of garbage (or 3.5 pounds per person per day) from the district is land filled annually. The majority of waste (73%) is shipped to the Waste USA landfill in Coventry, another 25% ends up at the Waste Systems International (WSI, formerly Palisades) landfill facility in Moretown, and a small amount (2%) is delivered to Bethlehem, New Hampshire. Given the distance to these end facilities, portions of the region's trash are dumped and packed into trailers at transfer stations in Hardwick and East Montpelier.

Disposal currently costs between \$75 and \$98 per ton – an estimated \$2.8 to \$3.7 million annually for the district. The cost to local residents is currently \$2.25 for each 30 gallon/25 pound bag of trash. The district anticipates no reduction in these rates, even as additional landfill capacity is developed statewide.

The Waste USA facility has permitted capacity through 2009. WSI's permit extends through 2007; however, they are expected to seek authorization to open another cell prior to permit expiration. In 1993, and again in 2001, citizens in the district overwhelmingly opposed the siting of a new landfill within the region. Accordingly, the CVSWMD currently has no intent to pursue a district-owned landfill, but will be re-evaluating its landfill siting criteria for the review of any proposed private landfill facilities.

## **Solid Waste Planning**

Under Act 78, passed by the state in 1987, CVSWMD must develop plans and programs that are consistent with the state's solid waste implementation plan. The district is currently updating its solid waste plan for state approval, scheduled for completion in the winter of 2003. Over the life of this plan, the district intends to embrace a "zero waste" philosophy that emphasizes resource conservation through the reuse and recycling of materials. In addition, all solid waste management facilities, including proposed landfills, must be identified in the district plan in order to receive certification from the state. Proposed solid waste management facilities are also subject to local regulations and require the support of the host community.

## ***7.7 Health & Social Services***

There have been dramatic changes over the past several years in health care and in service and insurance industries, resulting in rising costs and increased differentiation among service providers to access available federal and state funding. Many industry problems, including rising health care costs, are beyond the reach of municipalities and local organizations to address, but affect local businesses, workers, residents, and municipal budgets. Coordination and collaboration between funding agencies and service providers to ensure the effective delivery of services is more important than ever, and could be improved through local information and referral services. It is also reasonable to expect that volunteer efforts, and municipal funding and support for local service organizations, will become more important given anticipated cuts in state and federal programs.

A variety of private, state and nonprofit agencies provide health and social services to Northfield residents. Of particular importance locally are services provided to Northfield's elderly population, and to children and families in need. State and regional services are generally based in Montpelier or Barre. Many area nonprofits, described below, have a local presence, and depend in part on volunteers, municipal funding, and donations for support. Non-budgeted municipal appropriations to requesting organizations are decided annually by town voters.

### **Health Care Services**

Northfield residents have access to general health care services locally through several private practitioners— Green Mountain Family Practice and several dental practices. **The People's Health and Wellness Clinic** in Barre also offers health care services to area residents who are uninsured.

The town's hospital closed several years ago; however, the **Mayo Health Care** facility now serves as a 50-bed Level I/II nursing home that provides intensive and intermediate residential nursing care and therapies. There are also three state-licensed Level III care facilities in town – Four Season Care Home, Mayo Assisted Living, and Mayo-DeLary House – which provide room and board, personal care, 24-hour non-medical supervision, and limited nursing services to seniors and adults with disabilities. The three facilities have a combined capacity of 113 residents.

The **Central Vermont Medical Center** in Berlin is the region's full-service hospital, providing patients with emergency, medical, surgical, psychiatric, pediatric and social services, including counseling and referrals to area health and welfare agencies. A variety of outpatient services are also available. Northfield residents also have access to the **Gifford Memorial Hospital**, located in Randolph. Both hospitals are associated with the Dartmouth-Hitchcock Medical Center, in Lebanon, New Hampshire.

### **Social Services**

Locally, **Community Emergency Relief Volunteers** (CERV) provides food, clothing, utility, and other emergency assistance to residents in need. CERV also runs the local food shelf, located in the town's ambulance garage. It receives no public funding and operates through the generosity of the Northfield community and local businesses.

The **Central Vermont Community Action Council** (CVCAC), based in Berlin, offers a wide range of programs to serve the needs of low-income households and residents in the region – including food assistance, emergency fuel and weatherization, family support, Head Start, welfare-to-work, and community economic development programs. Community Action offers emergency assistance, to help offset the immediate impacts of poverty, and also long-term support for those working their way out of poverty. In 2000, CVCAC helped 284 Northfield residents and 197 families.

## **Senior Services**

The **Greater Northfield Senior Center**, on Wall Street, serves as a gathering place for local residents, and offers a variety of health and social programs and events, often in association with area agencies, to serve the town's senior population. The center offers regular health screening, workshops, and an on-site meals program. The **Central Vermont Council on Aging** (CVCOA) is a private, nonprofit group that provides support services for seniors, directly or under contract with local groups and organizations, to live independently in their homes and communities. In 2000, case management services were provided to 65 town residents. The Council also contracts annually with the Northfield Senior Center to provide community and home delivered meals ("Meals on Wheels"). Meals are served at the center Monday through Friday, for a donation. Transportation assistance is provided under contract with Green Mountain Transit Agency. The area's **Retired and Senior Volunteer Program** (RSVP) organizes opportunities for seniors to volunteer their services to a variety of community groups. Monies raised locally are used to help offset the cost of supporting volunteer activities.

## **Youth & Family Services**

There are currently twelve state registered child care providers operating in Northfield, including three day care centers: the Northfield Community Day Care Center, the Northfield Early Education Program, and St. Mary's Nursery School. The **Family Center of Washington County**, based in Montpelier, is the area's childcare resource and referral agency. The Center also provides preschool and after-school child care services, playgroups, parent education and support activities, training for childcare providers, and assistance to parents to pay for child care services. In 2000, the Center assisted 374 Northfield residents.

The **Northfield Boys & Girls Club** was established to provide a supervised place for youth to congregate that is safe and secure from dangerous and/or illegal substances; provides youth an opportunity to plan and take part in social, recreational, and educational activities and community service; and allows youth to experience democracy by exercising self governance under the guidance of an adult advisor. The Club's credo is "Honor Youth." The Club, which is open to any youth from Northfield, Roxbury, and Riverton, provides a number of programs including community service. It operates out of a facility adjacent to the downtown.

The **Northfield/Roxbury Drug Free Communities Support Program** is funded by the U.S. Department of Justice. The program's goals are to reduce substance abuse among youth and to form a coalition of community groups whose members will focus on helping to provide resources to create a healthy environment with emphasis on the prevention of substance abuse. To achieve these goals, grants are awarded to youth-serving groups in support of their programs designed to reduce risks that lead to substance use and abuse. Other strategies include coalition building with adult leaders and youth, increased media attention and the evaluation of youth use and attitudes towards alcohol, tobacco, and other drugs.

**Good Beginnings of Central Vermont**, based in Northfield, is a nonprofit program that provides volunteer support and education to new parents and their newborn or adopted babies, to help ease the transition into parenthood. Volunteers visit all families with infants, and also work with local libraries to distribute information. The **Washington County Youth Service Bureau** provides crisis intervention, parenting, family counseling, substance abuse services, and transitional living programs for runaway and homeless youths. In 2000, services were provided to 75 Northfield youths and family members. **Battered Women's Services and Shelter**, opened in 1990 in Montpelier, provides services to more than 1000 victims of domestic violence annually. The closest homeless shelter is the Good Samaritan shelter in Barre.

## 7.8 *Communications Services & Facilities*

Northfield is served by both traditional and more modern forms of communication that inform the community, connect residents with each other, and increasingly the wider world.

### **Newspapers**

The ***Northfield News***, the local weekly newspaper, was first established in 1878, and is the municipality's official newspaper for public warnings, notices, and announcements. Many Northfield residents also get their news from the ***Times-Argus***, central Vermont's daily paper based out of Barre, which offers some local coverage. Norwich University's newspaper, ***The Norwich Guidon***, also covers some local events.

### **Telecommunications**

Telecommunications facilities and services, until very recently, were limited to local and long distance phone systems, and wireless radio and television networks. The information access provided by cell phones and "personal digital assistants" (PDAs), on-line Internet services, and the World Wide Web was unheard of a decade ago. Telecommunications services available to Northfield residents are now multiplying at an unprecedented rate, due to ongoing technological advances and an expanding number of local and national service providers.

Technology and deregulation have blurred the lines between what were once distinct, separately regulated services – phone and cable systems are now used as much for data transfer as for more traditional forms of communication. Wired and wireless networks are being developed that allow for high-speed internet access, voice and data integration, video conferencing, distance and on-line learning, and telecommuting.

Telecommunications networks that support new information technologies and provide access to worldwide information and markets are also important economic engines. This is most evident locally in recent federal funding for the development of the **National Center for the Study of Cyber-Terrorism and Cyber Crime** at Norwich University, scheduled to go on-line in 2003. As a result of this center, Northfield is expected to become a regional hub for cutting-edge technology research and education.

Unlike traditional phone and broadcast networks, available for a nominal fee or the cost of purchasing a radio or television, many of the new technologies and services require a substantial initial capital investment (e.g., for computers, dishes or wiring), and subsequent monthly payments. There is also a learning curve associated with the use and application of new technologies. As a result, there is a growing information or "digital divide," which affects mostly lower income households and the elderly on fixed incomes, who also are often less familiar or comfortable with new technologies.

**Telephone Service.** The **Northfield Telephone Company**, first established in 1896, is the area's incumbent local exchange company. It is now a subsidiary of Telephone and Data Systems Inc. (**TDS Telecom**), a national telecommunications provider with local and regional offices in Northfield. TDS provides a variety of phone, data, and Internet services to Northfield and Roxbury area businesses and residents for monthly fees. Local consumers have the option of selecting from a variety of long-distance telephone service providers.

In 2002 TDS agreed, in response to an order from the Vermont Public Service Board, to reduce its local residential and business rates within the Northfield calling area, which encompasses approximately 53,000 subscribers; to use associated reserves to help offset costs incurred by local schools participating in the state's "Distance Learning" initiative; and to continue expanding broadband services, including Digital Subscriber Line (DSL) services, to a wider area. TDS also participates in "Link Up Vermont," which provides subsidized phone installation services for income-eligible residents.

**Wireless Phone Services.** Cellular phone service is also improving, but because of local topography, remains spotty in the Dog River valley. Providers are actively pursuing tower sites throughout Vermont to expand cellular coverage. Northfield, under the federal 1996 Telecommunications Act, cannot exclude such facilities, but can regulate their siting and appearance through local zoning or ordinances. Emissions, including related interference and health considerations, are regulated separately by the Federal Communications Commission (FCC).

**Radio, Television & Cable.** Because of the mountainous terrain, Northfield residents without cable or satellite service get limited radio and television reception. Norwich University's noncommercial radio station, **WNUB** (88.3 FM) has been broadcasting to central Vermonters for 35 years. The station's signal is transmitted from a 30-foot tower located on the roof of Jackman Hall, and reaches listeners within a 10-mile radius. **Trans-Video Inc.**, based in Norwich, provides cable television packages for a monthly fee. Trans-Video also provides three channels for public, educational, and government (PEG) use, as required by the Vermont Public Service Board (e.g., Channel 7, 15, and 16). Currently meetings of the Selectmen and Trustees are broadcast on Channel 7 but other local programming is limited. Northfield residents outside the cable service area have access to other wireless television services. Due to recent regulatory changes, satellite subscribers now have access to programming generated in Vermont. Two satellite companies provide service in Northfield. **Vermont Interactive Television** offers videoconferencing services to businesses, government, nonprofit organizations, and schools at fourteen sites around the state. The closest sites to Northfield are at the Vermont Technical College in Randolph Center, and at state offices in Waterbury.

### **Internet & Web Services**

Increasingly, more information and services, including government and educational services, are being provided through web sites, accessed through the Internet. Northfield residents with a phone line, computer, and modem, or a direct line connection, have access to a growing number of local and national Internet Service Providers (ISPs) – and a variety of associated services, including e-mail, file and data transfer services, web sites, and access to the World Wide Web. Residential Internet services currently offered through TDS include dialup access, Digital Service Lines (DSLs), and web hosting. Businesses also may have access to dedicated (Integrated Services Digital Network [ISDN] and T1) lines for higher speed service. Trans-Video offers its cable customers cable modem Internet access. For residents without a computer or cable service, the Brown Public Library now offers public on-line access, in partnership with TDS and Norwich University. The Senior Center offers classes and online access for senior citizens.



The Internet is increasingly important as an educational tool for information access and on-line (“distance”) learning opportunities. Northfield schools have broadband access to online services and resources through “K12net,” an extension of Vermont’s GOVnet, which supports local and distance learning programs. The Washington South Supervisory Union and both Northfield schools maintain basic web sites, and participate in VITA-Learn, the Vermont Information Technology Association for the Advancement of Learning, which encourages the use of information technologies to meet Vermont educational standards. Norwich University has also established on-line courses, including an on-line MBA program for business professionals.

The current Northfield web site ([www.northfieldvt.com](http://www.northfieldvt.com)) was developed and is maintained by the Northfield Business & Professional Association. NBPA offers the site as a resource for both local residents and visitors. Current web pages include a brief history of the town and its four villages, community and municipal information, listings of health, senior, educational, and recreational resources, and links to local businesses. A separate municipal web site is currently under development.

## **7.9 Cultural Facilities & Activities**

### **Brown Public Library**

The Brown Public Library is governed by an elected Board of Trustees. The library is open six days (43 hours) a week, and is run by an eight-member staff, including a head librarian, a youth librarian, and several assistants. Recent years have witnessed a tremendous increase in both circulation (which reached 21,880 in 2000) and use of the library’s Community Room. The library’s catalog was automated in 1995, the result of hundreds of hours of volunteer effort. Norwich University has provided computer services to get the library on-line. It is now linked to other libraries all over the state and worldwide. The library maintains its own web site, and offers free e-mail addresses to patrons. The library also offers a variety of community programs including youth workshops, story hours and summer reading programs, adult reading programs, and an off-site circulation service at the Northfield Senior Center.

**Friends of the Brown Public Library** is a membership-based nonprofit group organized to support the activities of the library through fundraising activities and volunteer efforts. The organization currently includes over 150 area families, and is financed through annual membership dues, the sale of book bags, and gifts. The Friends, in consultation with the librarian and library trustees, use funds raised each year to purchase books and equipment, and support library programs.

In 1995 the Library developed an expansion plan that would more than double the size of the building, modernize facilities, and enhance patron services. It would also include a new permanent home for the Northfield Historical Society in the historic Paine House (the former site of the American Legion). Over several years, the library in conjunction with the Northfield Historical Society conducted an ambitious fund raising effort to raise \$1.3 million. This resulted in substantial federal and state grants, and private donations, including \$100,000 from the Northfield Savings Bank and \$50,000 from Norwich University. In September 1998, town voters approved a \$400,000 bond for the project to go forward. Renovations and expansion were completed in 1999.

## **Community Organizations & Events**

Northfield is home to nearly forty service, educational and community organizations that support a wide variety of local activities and cultural events, and contribute much to community life. Norwich University also supports community activities through its community service and youth mentoring programs, and by making university facilities available for use by community groups.

The Greater Northfield Arts Activities Group, Inc., is a not-for-profit community organization formed in 1999 and dedicated to building multi-generational relationships that engender mutual respect, responsibility, and recognition by bringing together children, youths, and adults to perform, produce, and exhibit for the enjoyment of themselves and others. All events, workshops, meetings, and programs are substance free (including a prohibition of alcohol and tobacco).

Annual events that attract both local residents and visitors include the Vermont Quilt Festival, held in June of each year at Norwich University; Summer on the Common entertainment series held Tuesday evenings through July and August; Labor Day Observances and Parade, a three-day festival held on the village common; the Haunted Hayride, held two weekends in October, and "Ellie's Farm Market Jock-o-Lantern Show," a 25-year local Halloween event. Northfield also is known for the annual "Cabot Hosiery Sock Sale," held each fall at the Cabot sock mill and the Barry T. Chouinard, Inc. tee shirt sale.

Cultural events attracting outside visitors present Northfield in a positive light, and also contribute to the local economy. **Northfield Observances**, which organizes the annual Labor Day festivities, has estimated that this event alone draws thousands of people to the community, provides over \$35,000 in annual revenues to businesses and organizations that set up booths on Depot Square, and also supports other Northfield businesses. Northfield Observances also arranges for additional police coverage for this event, and requests an annual appropriation from town voters each year to help defray the cost. Appropriated funds are paid over directly to the Northfield Police Department.

The **Northfield Business & Professional Association (NBPA)**, created in 1978, serves as a local chamber of commerce by promoting member businesses, local economic development, and Northfield as a tourist destination; but it also takes a broader interest in larger issues affecting the community. NBPA sponsors community events, recognizes outstanding community service, represents the community in regional organizations, and provides information and assumes positions on issues affecting the community. NBPA, as noted, also maintains Northfield's web site on behalf of the community at large. Membership is open to anyone who lives in the greater Northfield area, or who is associated with a local service, business, or professional activity.

## **7.10 Community Facilities & Services Goals, Policies & Tasks**

### **Community Facilities & Services Goal**

*The provision of effective and cost efficient community services, facilities, and utilities is needed to meet present and future demands of Northfield citizens and visitors.*

### **Community Facilities & Services Policies**

- 1) Provide municipal services and facilities in an efficient and cost effective manner to ensure a high level of service without creating an undue financial burden on taxpayers. To this end:
  - Village and Town governments should continue to coordinate and cooperate to avoid redundancies and maximize efficiency; wherever possible, facilities and services should be shared;
  - Alternatives to the property tax to fund local services (grants, user fees, etc.) will be used wherever practical;
  - Capital expenditures will be programmed to avoid sharp fluctuations in the property tax rate;
  - The municipality will coordinate with neighboring communities to share services and associated costs to the extent practical;
  - Expansion of not-for-profit institutions, including Norwich University, shall be planned in a manner that does not place an undue burden on municipal services and facilities or result in an undue adverse impact on the property tax rate.
- 2) Plan for adequate facilities and services to accommodate anticipated future demands, so that those demands do not create an unreasonable burden on the municipality's ability to provide one or more facility or service. To this end:
  - The scale and timing of development shall be controlled to ensure that the resulting demand for services and facilities does not exceed the municipalities ability to provide them;
  - In the event new or expanded public facilities required to accommodate new development are not available or planned, the developer shall reimburse the municipality for the proportional cost of the facility(s) needed to accommodate the new development unless the municipality determines that the proposed development will provide community benefits which outweigh or offset the cost of facilities.
- 3) Make the most effective and efficient use of existing services, structures, facilities, and utilities before expanding capacity or constructing new buildings or facilities.
- 4) Coordinate the provision of facilities and services with local land use and development goals and policies outlined in this plan.

- 5) Continue to staff municipal departments at levels adequate to maintain and/or enhance existing municipal services.
- 6) Provide municipal water and sewer facilities to customers within defined service area boundaries. The extension of facilities to customers outside of those service area boundaries shall be limited to instances in which the extension is necessary to address a threat to public health and safety or to reinforce and support local land use and development policies unless extension is paid for by customers.
- 7) Allocate municipal water and sewer capacity in accordance with the goals and policies of this plan, including those related to land use, economic development and housing.
- 8) Operate the municipal wastewater system in a manner that ensures the highest practical level of protection to the Dog River.
- 9) Continue the Northfield Village function as the civic and cultural center of the community. To this end, municipal offices and emergency services should be located in Northfield Village, preferably in or adjacent to the downtown.
- 10) Implement the 2004-2005 Capital Improvements Budget proposed by the Selectboard, including \$10,000 for an examination of the present facilities housing the town's emergency services and the facilities needs of those services in the future. A new structure on the Fire Department lot would be required.
- 11) Pursue transportation and economic development policies regarding the construction of pedestrian and bicycle paths between Memorial Park and Northfield Falls, the downtown and Norwich University, in order to enhance recreation opportunities.
- 12) Manage the municipal forest, including land associated with the municipal water supply, for dispersed outdoor recreation in a manner that is consistent with other functions of the property (e.g., water supply, forest management).
- 13) Maintain municipal recreation facilities, including Memorial Park and Northfield Falls ballfields, in order to provide recreation facilities to local residents on an ongoing basis. The upgrade or expansion of those facilities should occur in accordance with a long-range recreation plan.
- 14) Encourage the creation and maintenance of a network of recreation trails, including hiking trails and winter recreation trails maintained by VAST. Class IV town roads should be available for recreation, including snowmobile trails, on a case by case basis providing the Selectboard determines that such use will not result in a hazard to public safety
- 15) Continue the Dog River Depot's function as the municipality's solid waste transfer facility and continue providing a full range of recycling and waste disposal options to local residents and businesses.

- 16) Continue to participate in the Central Vermont Solid Waste District and support the District's efforts to promote recycling and reduce waste generation.
- 17) Encourage private day care facilities and allow their use in all zoning districts (subject to appropriate conditions) in which residential and/or business uses are allowed.
- 18) Encourage the Northfield Boys & Girls Club to continue to serve as a safe setting for local youth to congregate and take part in supervised social, recreational, educational and community oriented activities, whether at its present location or another suitable location within or adjacent to the downtown.
- 19) Encourage the Greater Northfield Senior Center to continue to serve as a gathering place and service center for area seniors, whether at its present location or another suitable location within or adjacent to the downtown.
- 20) Encourage the Greater Northfield Arts Activities Group to continue its "Summer on the Common" entertainment and extend its other artistic presentations.
- 21) Continue to work with the Gray Building Coalition as they renovate the former Northfield Graded School for use by community service providers and for relocated civic and social purposes.
- 22) Maintain an up-to-date emergency management plan that addresses both potential natural disasters (e.g., flooding) and man-made disasters (e.g., major accidents).
- 23) Ensure that the E-911 emergency response system is maintained on an annual basis and that addresses are accurate and current.
- 24) Consider funding on an annual basis private entities and non-governmental organizations that provide social services to Northfield residents.
- 25) Encourage the development and maintenance of state of the art telecommunications infrastructure, including high-speed internet access, provided such infrastructure, especially telecommunications towers and related facilities, is developed in a manner which minimizes or mitigates potentially adverse impacts to public health and safety and scenic resources.
- 26) Maintain existing public telephones available in the downtown area, and encourage the placement of additional public phones in appropriate locations to enhance public safety and security.
- 27) Make full use (by municipal boards and committees) of available media outlets, including the *Northfield News*, the *Times Argus* and the *Washington World*, local cable access and a municipal web page, to increase public awareness and participation in community events.

## ***Community Facilities & Services Tasks***

- 1) Maintain and update the Capital Budget and Program on an annual basis. [Municipal Manager, Selectmen, Trustees]
- 2) Continue to explore opportunities to coordinate and share the responsibility for providing municipal services and facilities between the Town and Village [Municipal Manager, Selectmen, Trustees]
- 3) Review proposals for development to determine what impact they will have on the ability of the municipality to provide adequate services and facilities without an undue adverse impact on local tax payers, and place appropriate conditions on new development regarding the timing of construction and provision of services or facilities. [Planning Commission, Board of Adjustment]
- 4) Maintain representation on, and work with Norwich University's facilities planning committee to address the impact of new development and enrollment expansion on the municipalities' ability to provide services and facilities and impact on the local tax rate. [Selectmen/Trustees and Staff].
- 5) Conduct an assessment of municipal office space and related facilities to identify current and anticipated space needs for all municipal departments, and determine strategies for addressing those needs. Such an assessment should include:
  - Consideration of relocating the ambulance service, and police department, with the fire department, in a single public safety building or complex located next to the existing Fire Station; and
  - Options for upgrading, expanding, and/or relocating the municipal offices. [Municipal Manager, Selectmen, Trustees]
- 6) Prepare a wastewater allocation ordinance that ensures that reserve capacity is allocated in a manner that reinforces the land use, development, and natural resource protection policies of this plan [Planning Commission, Municipal Manager, Trustees]
- 7) Evaluate and comment on the regional solid waste management plan in relation to Northfield's needs, prior to its adoption by the District. [Municipal Representative(s) to District; Municipal Manager, Planning Commission]
- 8) Evaluate existing and anticipated recreation programs and facilities and prepare a plan for the long-range management and, if appropriate, upgrade or expansion of those facilities. [Recreation Committee]
- 9) Continue to ensure that public meetings are broadcast on community access television, and either develop a municipal web site or make better municipal use of the site sponsored by the Northfield Business & Professional Association.

- 10) Adopt telecommunications provisions under local zoning which require:
  - Providers to demonstrate existing gaps in coverage, and coverage improvements that will result from the siting of a new facility;
  - Collocation of facilities where feasible;
  - Telecommunications towers to be removed if not in use (e.g., for 18 months or more);
  - That new facilities comply with standards to minimize potential environmental and visual impacts resulting from such facilities; and
  - That small facilities may be located within existing structures (e.g., church steeples).
- 11) Evaluate current user fee structures and potential alternative funding sources for local services and facilities to reduce reliance on the local property tax. [Municipal Manager]
- 12) Evaluate water distribution system rehabilitation for the water system.

## Chapter 8. Local Education

### 8.1 Overview

The goal of the Northfield School system is to “encourage the highest quality educational system for all students of Northfield, and to encourage preparedness to handle the future of (the) school system’s growth.” The town has worked toward this goal through the Northfield School Board, several volunteer organizations, and the Washington South Supervisory Union, which, together with the Town of Roxbury, helps to oversee separate elementary schools in each community and the Northfield Middle/High School (6-12) in Northfield Village. This chapter provides brief background information regarding the school system, and identifies issues likely to affect the system in the coming years.

### 8.2 School Facilities

Northfield educates all pre-Kindergarten (PK) through grade 12 students at a central location on Cross Street in Northfield Village. In addition to the school complex, the Community owns the adjacent 160 acre Cook Farm, located to the northwest of the schools, which is used for school related studies and activities.

**Elementary School.** Students in PK through grade 5 are educated at the Comiskey School. The Comiskey School is administered by the five-member Northfield School Board elected by Town voters. A summary of recent trends and conditions regarding school participation, class size, access to technology and staffing is presented in Table 8.1.

<b>Table 8.1</b> <b>Northfield Elementary School</b>					
	1998-99	1999-00	2000-01	2001-02	Vermont (most recent)
<b>Participation</b>					
Total Enrollment	377	343	356	362	100,867
Attendance Rate	95.7%	95.6%	94.4%	95.1%	95.1%
<b>Class Size</b>					
Average Class Size	19.3	17.4	18.5	18.9	16.0
Student/Teacher Ratio	15.5	13.9	15.3	15.0	11.4
Eligible Special Education	10.9%	7.6%	9.8%	11.0%	13.0%
Home Study (number)	15	12	8	11	1,540
<b>Technology</b>					
Students per Computer	7.1	6.6	5.0	N/A	5.0
Internet Access	Yes	Yes	Yes	Yes	97% Yes
Type of Internet Connection	Dial-up	Direct Link	Direct Link	Direct Link	N/A
<b>Personnel (FTEs)</b>					
Classroom Teachers	18.6	18.6	17.5	17.5	6,413.1
Other Teachers	7.2	8.1	7.8	8.7	2,510.2
Instructional Aids	16.7	18.0	18.0	20.0	3,580.8
Licensed Administrators	1.0	1.0	1.0	1.0	420.8
Administrative Support	1.0	1.0	0.0	2.0	502.8
Other Staff	10.6	7.2	10.8	8.8	2,715.4
Average Teacher Salary	N/A	\$36,865	\$42,010	\$40,948	\$39,166
Source: VT Dept. of Education					



Originally built in 1978, the school was upgraded in 1994. Due to the 1994 upgrade, the current facility is adequate to meet anticipated enrollments for the foreseeable future (see section 10.3, below). One deficiency that exists, however, is the lack of outdoor recreation facilities. Expansion of existing recreation fields is limited by terrain, other physical constraints (e.g. wetlands), and adjacent residential neighborhoods.

**Northfield Middle/High School.** Northfield Middle/High School is located in a shared facility adjacent to the Comiskey School on Cross Street. The facility, which provides educational services for middle school (grade 6-8) and high school (grade 9-12) students, respectively, from Northfield and Roxbury<sup>5</sup>, is administered by the Northfield School Board. A summary of recent trends and conditions regarding school participation, class size, access to technology, and graduate aspirations is presented in Table 8.1.

<b>Table 8.2</b> <b>Northfield Middle &amp; High School</b>					
	1998-99	1999-00	2000-01	2001-02	Vermont (most recent)
<b>Participation</b>					
Total Enrollment	525	512	505	510	100,867
Attendance Rate	93.7%	94.1%	93.1%	93.1%	95.1%
<b>Class Size</b>					
Average Class Size	N/A	N/A	N/A	N/A	16.0
Student/Teacher Ratio	13.4	11.5	11.9	12.4	11.4
Eligible Special Education	13.7%	14.8%	14.7%	17.8%	13.0%
9-12 Dropout Rate	3.3%	5.7%	4.6%	2.5%	3.9%
Home Study (number)	6	10	8	8	1,540
<b>Technology</b>					
Students per Computer	8.3	6.3	5.1	N/A	5.0
Internet Access	Yes	Yes	Yes	Yes	97% Yes
Type of Internet Connection	Dial Up	Direct Link	Direct Link	Direct Link	N/A
<b>Personnel (FTEs)</b>					
Classroom Teachers	29.8	30.9	27.7	28.8	6,413.2
Other Teachers	12	16.8	17.8	15.2	2,510.2
Instructional Aids	14.3	15.0	16.5	15.5	3,580.8
Licensed Administrators	2.0	2.0	2.0	2.0	420.8
Administrative Support	2.0	2.0	2.0	2.0	502.8
Other Staff	10.5	11.8	11.6	9.6	2,715.4
Average Teacher Salary	N/A	\$34,246	\$35,818	\$41,624	\$39,166
<b>Mean SAT Scores</b>					
Verbal	N/A	456	448	505	514
Math	N/A	445	439	490	512
% Seniors who took exam	N/A	51%	46%	59%	63%
<b>Post Secondary Aspirations (Srs)</b>					
4-Year College	62%	56%	50%	N/A	54%
2-Year College	4%	4%	18%	N/A	8%
Other School	7%	0%	7%	N/A	3%
Homemaker	0%	2%	0%	N/A	0%
Full-time Job	23%	26%	11%	N/A	32%
Military Service	0%	2%	0%	N/A	3%
Take Time Off/Don't Know	2%	0%	13%	N/A	2%
Source: VT Dept. of Education					

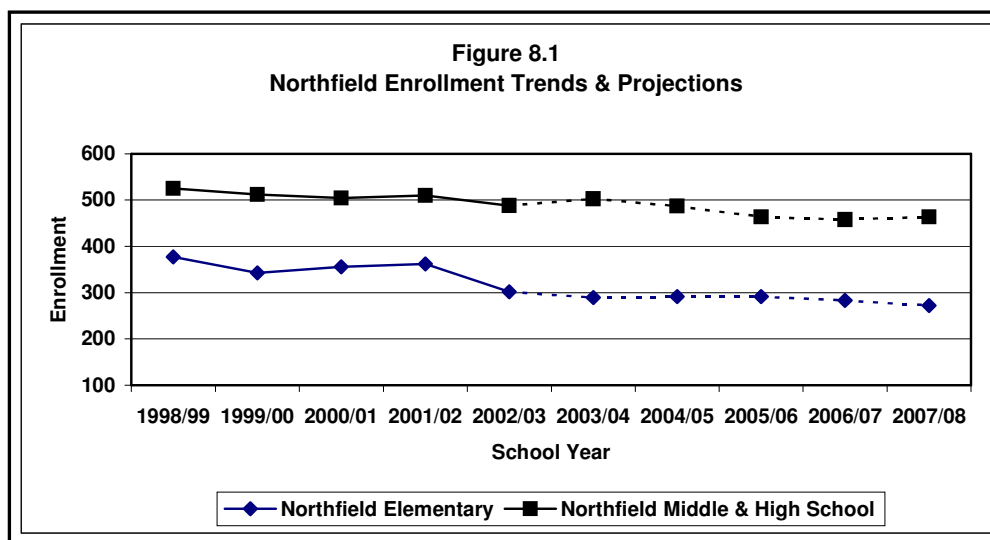
<sup>5</sup> Roxbury students are only in grades 7 through 12.

The High School was constructed in 1954 and underwent substantial upgrade and expansion in 1994, at which time the separate middle school was established. The respective schools operate out of separate portions of the building.

The school's academic program includes college preparatory, business, and limited vocational courses. Curriculum is supplemented with vocational education provided to local students at Randolph Area Vocational Center (RAVC) – one of sixteen vocational centers serving local high schools around the state. Quite a few high school students take regular college level courses at Norwich University and Vermont Technical College. In addition, the school offers Advanced Placement (AP) courses in English, Calculus, History, and Biology. As described in detail in Chapter 8, the Washington South Supervisory Union Board (composed of three Roxbury representatives and five Northfield representatives) and both Northfield schools maintain basic web sites, and participate in VITA-Learn, the Vermont Information Technology Association for the Advancement of Learning, which encourages the use of information technologies to meet Vermont educational standards.

### 8.3 Enrollment Trends

Enrollment in both the elementary, middle and high schools has remained relatively stable in recent years. As explained in Chapter 3, however, Northfield's aging population and modest growth will likely result in declining enrolments in the coming years. This is supported by recent trends and enrollment projections provided by the Washington South Supervisory Union which are presented in Figure 8.1.



From a facility standpoint, the declining enrollment is good news in that additional space will not be needed in the foreseeable future. From a program and financing standpoint, however, a declining enrollment places additional burdens on the school to maintain a full range of programs with fewer students. This is especially true under the present method of funding education that is based upon enrollment and the per-pupil cost of education.

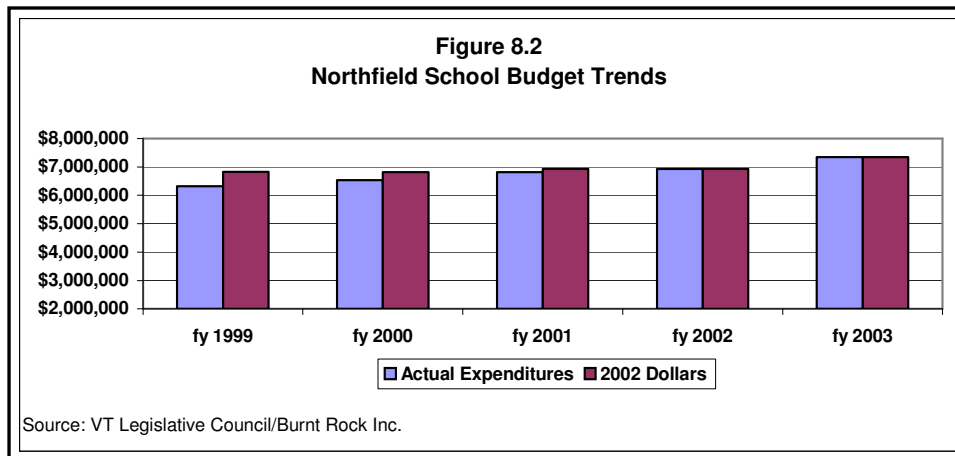
Development trends in the community and surrounding region, and municipal economic and community development policies and programs, can influence future enrollment trends by encouraging job creation and residential development in the community. Recent initiatives, such as the Center for Cyber Terrorism (see Chapter 5), indicate that some additional growth should be anticipated. Not only should local schools be able to accommodate anticipated growth in the near term without experiencing substantial burden, such growth may be beneficial to the school by helping to maintain a consistent student body while enhancing community vitality.

## 8.4 Cost of Education

Funding local education is the largest single expenditure for most Vermont municipalities, typically accounting for between 65% to 90% of all local tax dollars. With the passage of Act 60 in 1997 (first implemented in FY99) the state instituted a statewide property tax to fund education, and an “income sensitization” feature that limits the amount of education property tax to be paid by income-qualified Vermont residents.

The statewide property tax is calculated for each community using an “Equalized Education Property Tax Grand List,” as determined by the state based on estimates of the fair market value of all listed real property in the community. This is used to measure the property wealth of a school district. Currently (2002/2003), the equalized statewide education tax rate is \$1.10; every student receives a general state support grant of \$5,651. For districts spending above the grant, a local share tax is imposed in addition to the statewide tax, as in the case of Northfield. The local share tax is determined directly from per pupil spending above the block grant. As a result, Northfield’s effective tax rate for education – \$1.61 in 2003 – is lower than the state average (\$1.68) for the same year.

Despite Northfield having a per-pupil cost above the state block grant (\$7,462 in 2002/03), it is still below the state average (\$7,725) and Northfield remains a “receiving” town under Act 60, meaning that the town receives more in state property tax revenue than is raised locally. This is partly due to lower than average budget increases since Act 60 was put into effect. When funds are adjusted for inflation, the average annual budget increase over the past five years has been approximately 1.5%. Total annual expenditures for 1998/99 through 2002/03 are presented in Figure 8.2



## 8.5 Northfield Schools & the Community

The Northfield Community School Organization (CSO) was formed in 1988 with a mission of “build(ing) bridges between the Northfield School and parents of Northfield students and the greater Northfield population, with an organizational focus on PK through 8<sup>th</sup> grade. Composed of volunteer parents, teachers, school administrators and community members, the CSO sponsors several activities, including an after-school program offering enrichment programs between January and March, an Artist in Residence program, family activities, and fundraising to supplement school budgets and expand curriculum.

Among the most important issues raised at the Vermont Council for Rural Development's community visit in January 2002, was the need to promote academic excellence in the Northfield School system. As part of that process, a group of local residents focused on the local school system's strengths and challenges. Summaries of the three key challenges identified are:

- 1) Deficits in terms of academic atmosphere, curricular opportunities, and performance.
- 2) A lack of field space for playground and sports.
- 3) A lack of sustained parental involvement and leadership toward academic, rather than athletic, excellence, especially for higher grades and high school.

With the exception of facility concerns (e.g., ballfields), which are mentioned above, issues associated with curriculum and academic programs are generally outside of the scope of this plan.

## **8.6 Adult Education**

Adult education opportunities for Northfield residents are available locally through Norwich University and at various regional centers.

**Regional Adult Education.** The Community College of Vermont (CCV)'s Montpelier campus provides a variety of courses and degree programs. In addition the Vermont Technical College in Randolph and the University of Vermont and several other colleges in the Burlington area provide higher learning opportunities for local residents. A growing number of opportunities for "distance learning" are available on-line and through the Vermont Interactive Television (ITV) site in Waterbury.

A variety of adult basic educational programs are also available through Central Vermont Adult Basic Education, with offices in Barre, Montpelier, and Randolph. These include individualized and group educational services to adults in their homes, at the learning center, and in community settings. Basic education programs serve those who wish to improve their reading, writing, and math skills for use on the job or in daily life, those who are studying for their high school equivalency degree (GED) or adult diploma, and those who want to learn English as a second language. Computer training is also available.

Central Vermont Adult Basic Education also offers a family literacy program, an out of school youth program, a teen parenting education program, and a getting ready to work program for welfare recipients who are seeking academic and job skills to improve their occupational outlook.

**Norwich University.** Norwich University is the nation's oldest military college whose student body is composed of the Corps of Cadets and civilians with the majority belonging to the Corps of Cadets. The ROTC program at the University is represented by all branches of the armed services. Norwich offers state of the art science, engineering, communications, nursing, architecture, sports medicine, humanities, criminal justice and liberal arts degree programs, including several post graduate degrees.

## **8.7 Education Goals, Policies & Tasks**

### **Goal**

*The availability of high quality educational facilities and programs to enable all Northfield residents, especially children and youth, to become competent, productive, and responsible citizens.*

### **Policies**

- 1) Continue to provide sufficient and appropriate K-12 school facilities to meet current and anticipated enrollments.
- 2) Support programs and efforts to strengthen the central role that Northfield's schools play in the community.
- 3) Continue to support and possibly expand the interaction between the Northfield High School system and Norwich University.
- 4) Support efforts to reduce the reliance on the local property tax for funding education and ensure that Northfield students have access to educational facilities and programs equal to students in other Vermont communities.
- 5) Encourage the greater participation of Northfield residents in available adult education programs.

### **Tasks**

- 1) Explore options for expanding recreational facilities in or adjacent to local schools. [School Board]
- 2) Continue to monitor enrollment and population trends, and to make regular enrollment projections to ensure that the school system is prepared for significant changes in enrollment trends. [School Board, Planning Commission]

## CHAPTER 9. ENERGY

### 9.1 Overview

Reliable, affordable, and sustainable sources of energy are vital to Northfield's economy, social well-being, and future development. Every individual, home, office and business in town relies on some sort of fuel or energy for transportation, heating, lighting, and the operation of equipment and appliances. International events and rising fuel prices are reminders, however, that too heavy a reliance on any one source of energy can leave the nation, and local residents and businesses, vulnerable to market changes and shortages. It is also increasingly well documented that our current patterns of energy consumption are contributing to global warming and climatic change which, if they remain unchecked, will dramatically affect Vermont's climate over the next several decades.

Factors influencing the cost and availability of energy, at present, are largely beyond the control of the local community. Changing technologies, and evolving national and state energy policies – including utility deregulation, demand side management, infrastructure investment, and the promotion of more efficient and renewable “green” energy sources – all have an affect on local energy supplies. There are several things Northfield, and its residents and businesses can do to influence our energy outlook, particularly to promote energy conservation and efficiency, and to encourage the development and use of alternative energy sources and technologies.

### 9.2 Demand

#### Statewide Trends

Information included in *Fueling Vermont's Future*, the state's 1998, 20-year comprehensive energy plan, indicates that overall energy demand continues to escalate statewide. This is due largely to a dramatic growth in fuel consumption for transportation, resulting from increases in both the number of vehicles on the road and total vehicle miles traveled. During the economic boom of the 1990s commercial and industrial energy demand also grew significantly. Residential use also increased, but at a much slower rate. This is attributed to more energy efficient residential construction in recent years, and the wider use of energy efficient appliances.

Transportation currently accounts for around 43% of Vermont's total energy use, and space heating another 28%. Water heating (9%), process heat for industrial purposes (8%), and other miscellaneous uses (lighting, air conditioning, appliances, etc.), are responsible for the rest of the demand. Energy use varies by sector, as noted in Table 9.1.

Table 9.1 Principal Energy Use by Sector in Vermont			
Sector	Primary	Secondary	Tertiary
Residential	Transportation	Space Heating	Water Heating
Commercial	Transportation	Space Heating	Lighting
Industrial	Process Heat	Transportation	Motors
Source: <i>Fueling Vermont's Future</i> , VT Dept. of Public Service, 1998.			

Demand also varies by energy source. Petroleum is by far the most predominant fuel used in Vermont, and will continue to be in demand well into the future, despite growing uncertainties regarding long-term oil supplies and associated costs. Total electrical energy use has also risen steadily, despite efficiency gains. Propane (LPG) use is also increasing while wood, used mainly for home heating, has fluctuated over the years in relation to the price of heating fuel.

Total energy demand statewide is expected to increase 54% between 1990 (base year) and 2015. This increase will continue to stem largely from growth in the transportation sector, due to increases in the number of vehicles, miles traveled, declining fuel efficiencies, and dispersed patterns of development.

The associated impacts of increased energy use are increasingly well documented. Motor vehicles fueled by petroleum sources are the state's largest source of toxic and carcinogenic air pollutants – the average vehicle emits around a half a ton of air pollution each year. Vehicle emissions pose a health threat locally (even at low levels), contribute to acid rain, and can cause widespread damage to crops and forests. “Green house gases” such as carbon dioxide, emitted from motor vehicles and oil-fired furnaces also contribute to climatic warming.

Future energy expenditures are also expected to increase accordingly (1.7% per year through 2015), due to increased consumption levels and rising energy prices.

## **Local Demand**

There is much less information available regarding local energy use – particularly commercial and industrial use– but given available data, local use generally reflects state and national consumption patterns.

### **Municipal Energy Expenditures.**

According to annual report information, the Town and Village of Northfield spent over \$200,000 on energy in 2000, for electricity, gas and diesel fuel, and heating fuel. The village accounted for 64% of total expenditures, including 83% of the amount spent on electricity.

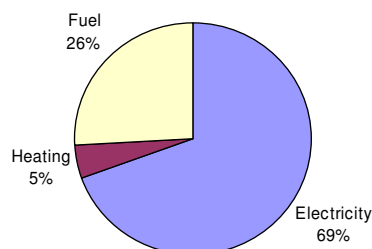
### **Global Warming in Vermont**

According to the Intergovernmental Panel on Climate Change, temperatures in Vermont could increase by 6 degrees over the next few decades. This increase would make Vermont's climate more like that of New Jersey. The result:

- More volatile and variable weather conditions
- Hotter summers, shorter fall foliage and ski seasons
- An increase in storm events and stormwater runoff
- More frequent dry spells and water shortages
- Loss of hardwood forests, including the sugar maple
- Greater need for agricultural irrigation
- Loss of migratory bird, endangered species populations
- Introduction of warmer climate species and pests.

Source: *Climate Change and Vermont*, U.S. EPA, 1998.

**Fig. 7.1 Town/Village Energy Expenditures, 2000**  
[Total: \$201,751]



The high demand for electricity in the village is largely the result of water and sewer system operation – accounting for 45% of total municipal electricity costs. This is in keeping with energy consumption associated with industrial equipment and processes. Street lighting accounted for another 41% of electricity expenditures. In 2000, the combined cost of electricity for water and sewer system operation and street lighting (\$120,695) represented 60% of total municipal energy expenditures. Transportation fuel costs accounted for 26% of the municipal total – including 63% of the town's energy expense.

**Transportation.** According to Vermont Agency of Transportation data, vehicle miles traveled annually on state routes through Northfield increased by nearly 3,300 miles (8%) between 1990 and 2000 – much less than the 15% increase in vehicle miles traveled countywide. Nevertheless, recent U.S. Census data suggest that Northfield residents are more auto-dependent than ever (Table 9.2).

<b>Table 9.2 Transportation Indicators, 1990-2000</b>				
	<b>1990</b>	<b>2000</b>	<b>Change</b>	<b>% Change</b>
<b>Vehicles Available (# households)</b>				
None	174 (10.4%)	112 (6.1%)	-62	-35.6%
One	565 (33.7%)	594 (32.6%)	29	5.1%
Two	718 (42.8%)	859 (47.1%)	141	19.6%
Three or more	219 (13.1%)	259 (14.2%)	40	18.3%
<b>Commuting to Work (# employed)</b>				
Drove alone to work	1,645 (67.8%)	2,017 (68.7%)	372	22.6%
Carpooled to work	282 (11.6%)	361 (12.3%)	79	28.0%
Took public transportation	0 (0.0%)	5 (0.2%)	5	--
Walked or worked at home	441 (18.2%)	520 (17.7%)	79	17.9%
Mean travel time to work (min)		21.1		
Aggregate travel time (min)	43,900.0	60,100.0	16,200	36.9%
Source: U.S. Census.				

The number of cars per household has grown, and 68% of Northfield's population continues to drive to work alone. Total commute time increased by 37% over the last decade. The number of employed working at home, walking, and carpooling also increased, but continued to represent around 30% of the town's working population. Of those walking or working at home in 2000, 86% lived in Northfield Village.

**Home Heating.** Home heating methods used by Northfield households are also reported in the U.S. Census (Table 9.3).

<b>Table 9.3 Home Heating, 1990-2000</b>				
<b>Home Heating Fuel (# occ. units)</b>	<b>1990</b>	<b>2000</b>	<b>Change</b>	<b>% Change</b>
Fuel oil, kerosene, etc.	1,076 (64.2%)	1,374 (75.3%)	298	27.7
Bottled, tank or LP gas	85 (5.1%)	217 (11.9%)	132	155.3
Electricity	147 (8.8%)	80 (4.4%)	-67	-45.6
Wood	327 (19.5%)	151 (8.3%)	-176	-53.8
Solar	--	--	--	--
Other	3 (0.2%)	2 (0.1%)	1	-33.3
Source: U.S. Census.				



These data suggest that while fuel oil continues to be the dominant home heating source in town, as it is throughout New England, there has been a shift from relatively expensive and inefficient electric space heating to more efficient, and cleaner burning gas heat. New state energy standards for residential and commercial construction generally no longer allow electric space heating. These standards apply to commercial buildings, including multi-family dwellings, all new homes, and to residential additions over 500 square feet.

Wood, though a renewable and locally available fuel, has decreased in importance as a primary heating source. This may change as the price of heating oil continues to rise – the comparative cost of wood heat per Btu (a unit of heat energy) is currently about 25% less than that of fuel oil. As expected, solar energy is insignificant as a primary residential heating source; however new construction often incorporates passive solar orientation and techniques to reduce space-heating requirements.

## **9.3 Energy Supply**

### **Electricity**

The **Northfield Electric Department**, under the authority and management of Northfield Village, is one of fifteen municipal utilities in Vermont chartered to provide electric service within its established service area. The department's territory now includes most of Northfield and part of Roxbury. A small area of Northfield is served by the Central Vermont Public Service Corporation (CVPS), the state's largest electric utility.

The department serves around 1,600 residential and 180 commercial customers, and maintains a substation and around 25 miles of transmission and distribution line within its territory. There are currently no commercial generating facilities in town. Line maintenance is also contracted through Green Mountain Power. In 1998 Northfield voters approved a \$1.2 million bond to upgrade the department's distribution system, including rebuilding a 12 KV transmission line, which was completed in August 1999. This work and a recent substation upgrade are expected to provide customers with needed voltage and reliable service for years to come. The capital budget also anticipates ongoing line and substation circuit upgrades, and pole replacements.

Northfield Electric purchases around 5 MW of electricity for distribution to its customers under contract from outside sources, including Hydro Quebec, the McNeil generating plant in Burlington, and the Vermont Public Power Supply Authority. The department's contract with Vermont Yankee ended. Any excess power is sold on the open market. The cost of power purchased from contracted sources increased significantly in the late 1990s, resulting in annual operating deficits. In 2000 the department applied to the Public Service Board to restructure its rates in relation to rising power costs, and to maintain competitive commercial rates.

In recent years the state legislature has considered, but not implemented, statewide utility restructuring that could affect municipal utilities. In 1996 a plan was filed by municipal utilities that recommended the creation of municipal generating companies, or "Municos," that would allow each municipal utility to continue to offer monopoly distribution services within its service territory. Problems encountered with deregulation nationally have dampened such initiatives in Vermont, at least for the near future.

## **Fossil Fuels**

Vermont has no petroleum infrastructure, and relies on tanker trucks for its petroleum supplies. Residences and businesses are supplied by local oil and gas distributors. Several gas stations in town serve local motorists and the traveling public.

Fuel prices are typically higher in northern New England, and have increased dramatically in recent months. National and regional fuel shortages, compounded by an especially cold winter in the northeast, have resulted in major increases in the cost of heating oil, as well as gasoline, kerosene, propane, and diesel fuel. Recent international events, and our heavy reliance on foreign oil, have fueled the ongoing national debate over energy policy and supplies, and the use of federal fuel reserves. Such events also highlight our region's reliance on limited sources of fuel to supply most of our energy needs, and leave local residents – particularly low income residents – very vulnerable to fuel shortages and price fluctuations.

The environmental impacts of such heavy reliance on fossil fuels are also prompting state efforts to diversify Vermont's energy portfolio, to include the use of cleaner, more efficient natural gas systems, co-generation systems that produce electricity and heat, and greater reliance on renewable energy resources, including wood and wind power.

## **Renewable Energy**

Renewable energy resources found in Northfield include wood, wind power, and limited solar and hydropower, but the extent to which they can be harnessed and used to replace other sources of energy is not clear. The availability since 1998 of “net metering” – which allows utility customers with small-scale renewable energy systems to sell excess power back to the utility – may promote increased use of renewable sources.

**Wood.** A “biomass fuel,” wood is the town's most abundant, indigenous renewable energy source. For much of Northfield's history, wood was the town's principal source of heat. It is a relatively low cost, renewable energy source that is not disrupted by embargoes, high transportation costs, or tariffs. The heavy use of wood for heating, however, can result in environmental degradation and air pollution.

Northfield has a large amount of forested land – including municipal forests – that under effective management could serve as a renewable source of wood heat. Extensive wood harvesting, however, if not properly managed, can cause increased stormwater runoff and soil erosion, sedimentation, water pollution, and habitat loss. Woodlot management (and adherence to state accepted management practices for logging operations) reduces the adverse impacts of harvesting operations, and it can enhance local timber stands to meet a variety of landowner objectives – including fuel production.

Newer high efficiency wood stoves and furnaces, if properly installed and maintained, provide effective home heating. Stoves sold since 1990 must be airtight and meet EPA emission standards. The addition of catalytic converters reduces harmful emissions and particles that are released into the atmosphere. As noted, however, the number of homes in town using wood as a primary heating source has declined in recent years. Though wood-burning technologies have improved, wood heat remains less convenient than oil or gas heat. It is anticipated that as heating oil prices increase, more households will use wood as a primary or supplemental heating source.

Wood is not currently used to heat Northfield's school or municipal buildings, but several other Washington County schools have shifted over to biomass (wood chip or pellet) heating systems under state-sponsored programs. Automated, wood-fired systems are proving to be an affordable heating alternative to conventional oil systems in such settings.

**Wind.** Wind is an emission-free renewable energy source that, with rapidly improving turbine technologies, is receiving increased interest statewide. In the late 1990s, the Public Service Department, in association with Green Mountain Power and other energy interests, conducted a statewide wind assessment to determine the potential for commercial wind energy development. This work was updated in 2002 in association with the department's efforts to promote utility-based wind energy, and to address related siting issues. Tentatively identified high wind areas include the ridgeline extending from Irish Hill to Paine Mountain, and south to Shaw Mountain east of Route 12, and the Northfield Range west of Route 12. Elevations between 2000 and 3500 feet above sea level are ideal for maximum power production. Wind energy projects also typically require power lines, substations, and access roads.

The extent to which local zoning can regulate wind generation facilities is not yet clear, since such facilities are also regulated by the Public Service Board and must be issued a Certificate of Public Good by the state. Potential impacts of such facilities, however, include aesthetic impacts associated with highly visible ridgeline development; potential impacts to wildlife and wildlife habitat in the vicinity; and potential safety hazards, when sited in close proximity to other development. Some of these impacts can be mitigated through careful site selection and design, as discussed in the Department's 2002 guide, *Wind Energy Planning Resources for Utility-Scale Systems in Vermont*, and related documents.

**Hydropower.** The Dog River and its tributaries provided waterpower for Northfield's earliest mills and manufacturing plants. Today these industries are gone, but the potential remains for small-scale hydropower development. This was long considered a particularly clean source of renewable energy. The environmental impacts of dam construction, operation and management – including the effects of changing water levels on river flow, stream habitat and water quality, and on adjoining riparian areas – are now given much more weight in federal and state dam licensing procedures. There are few if any sites locally that are suitable for utility-scaled power plants, but there may be opportunities to develop smaller "microhydro systems" to supply individual users, which would have much less impact on the local environment.

**Solar.** Solar energy, like wind and hydro, is one of the few energy resources that is not depleted with use. Advances in solar technology have made it easier, and increasingly affordable, for solar energy to be harnessed for residential space and water heating, and for electrical generation. Building orientation and site exposure are critical to access available energy. Northfield has some south-facing slopes that could provide access for both solar heating and solar power on individual building sites.

The contribution of solar energy to Northfield's total supply is likely to increase only modestly over the next few years. More structures are being designed to take advantage of passive solar energy for heating and light; however not all structures can support the panels and systems needed to collect and store solar energy. Up front costs for materials and installation remain relatively expensive for the average homeowner, and Northfield may not have enough sunny days each year to ensure a reliable source of energy to justify the expense. Passive solar building design, however, can significantly reduce heating costs. Technological advances, including the incorporation of photovoltaic components in roofing and building materials, should make solar power a more viable source of electricity in the near future.

## 9.4 Conservation

The state's energy conservation efforts since 1990 have focused on "Demand Side Management" (DSM) to increase energy efficiency, reduce energy demand, and in effect increase available energy supplies. In 1990, under order of the Public Service Board, electric utilities were required to develop a variety of demand side management programs for their customers, which have since been consolidated into one statewide energy efficiency utility – Efficiency Vermont. In recent years the state also passed energy standards for commercial and residential construction, which are administered and enforced through the Department of Labor and Industry. Net-metering to encourage the use of more decentralized, renewable energy resources went into effect in 1998, and legislation is now pending to promote greater energy efficiency and renewables through the use of tax credits and other state support programs. Legislation is also currently being considered that would establish minimum statewide outdoor lighting standards.

The need for increased energy efficiency and conservation, in part to reduce energy costs, is also recognized locally – particularly for Northfield's older, historic homes and public buildings. For example, the Gray Building Coalition is seeing that the building is energy efficient. A number of programs are available to local residents and businesses to increase energy efficiencies and reduce costs.

### **Efficiency Vermont**

Efficiency Vermont, created by the Public Service Board in 1999, consolidates the energy conservation programs offered by individual utilities into one statewide energy efficiency utility – a first in the nation. Vermont's "Invisible Power Plant" to date has saved the equivalent of 11.8 MW during the peak winter period, and 6.2 MW at summer peak. Its efficiency programs are financed by the state's electric utilities through an "energy efficiency charge" that is passed on to ratepayers (2.372% to Northfield customers and 2.095% to CVPS customers in 2002). Current programs available to Vermont residents, businesses, and municipalities, include:

- **Efficient Products** – provides energy efficient product information and discount coupons.
- **Vermont Energy Star® Homes Program** – provides technical assistance and rebates to homebuilders and buyers who build energy efficient homes.
- **Commercial Energy Opportunities** – provides technical and financial assistance to commercial and industrial businesses to improve the efficiency of existing and new facilities.
- **Dairy Farm Program** – provides technical assistance, financial incentives, and low-interest financing for energy efficient farm equipment.
- **Residential Energy Efficiency Program (REEP)** – provides technical and financial assistance to developers, owners and managers of low income multi-family housing to reduce energy costs
- **Income-Eligible Services** – provides technical and financial assistance to low-income Vermonters who are participating in the state's weatherization program to make additional electricity-saving improvements.
- **Emerging Market Initiatives Program** – identifies, evaluates and tests innovating energy efficiency technologies, and practices to promote their use.

## **Transportation**

Few alternatives currently exist that would allow Northfield residents to become less dependent on automobiles for transportation. Nevertheless, as gasoline prices climb and vehicle emissions continue to erode air quality, reasonable efforts should be made to promote ridesharing, alternative modes of transportation, and less auto-oriented patterns of development. The Central Vermont Transportation Authority provides information on carpooling, ridesharing, vanpooling, and special public transportation needs.

Local initiatives that could help reduce the number of vehicle miles traveled include the completion of the proposed bicycle and recreation path between Northfield Falls and Northfield Village, and the development of a local park and ride facility. Northfield could also take advantage of municipal programs offered through EVermont, a nonprofit affiliated with the Agency of Natural Resources, which advocates for the use of cleaner, more energy efficient alternative fuel vehicles (AFVs). AFVs include vehicles powered by electricity, compressed natural gas, propane, and biodiesel fuels. EVermont, in association with the Agency of Transportation, currently offers electric vehicle (EV) leasing programs to municipalities, businesses, and institutions. It is also involved in testing a variety of alternative fuel technologies for use in Vermont.

## **Land Use & Development Patterns**

As shown by the number of local residents who walk to work in Northfield Village, concentrated development can reduce reliance on the automobile, vehicle miles traveled, and inherent system energy costs – including energy costs associated with maintaining roads and related infrastructure. Clustering development in the vicinity of existing development and infrastructure, including roads and power lines, generally disturbs less land, and requires less energy to construct and maintain. Sidewalks and connecting paths encourage people to walk, rather than drive, to destinations within a quarter to a half-mile of where they live.

At the site level, a southern building orientation and landscaping can effectively reduce energy demand. Clustering, and other energy efficient development patterns can be encouraged, and/or required through local zoning and subdivision regulations.

## **Buildings & Equipment**

In addition to the adoption of energy codes for residential, commercial, and public buildings, there are a number of other programs offered by the state to promote municipal energy efficiency and the use of renewable energy resources. These include but are not limited to the various programs offered through Efficiency Vermont, EVermont electric vehicle leases, the School Energy Management Program (SEMP) targeted to school administrators, and programs to support the conversion of school heating systems to wood-burning systems.

Municipal energy savings can be realized through regular energy audits of municipal buildings and the use of “life cycle costing” practices that incorporate long-term energy savings in the fiscal analysis of facility construction and equipment purchases. Such costing methods often demonstrate that long-term energy savings more than offset the higher initial purchase or construction cost of energy efficient equipment and building improvements.

## **9.5 Assistance Programs**

Rising energy costs for heat, electricity, and transportation are particularly hard on low-income households who can least afford them. Programs administered through the Central Vermont Community Action Council, which are specifically targeted to help income-eligible residents, include seasonal and emergency fuel assistance, supported in part through the WARMTH donations collected by private utilities, and free weatherization services to help reduce heating costs. Northfield can assist such programs by providing program information locally, and by continuing to support Community Action. Limited emergency fuel assistance is also available locally through Community Emergency Relief Volunteers (CERV), which at present receives no municipal funding.

## **9.6 Energy Goals, Policies & Tasks**

### **Goal**

*The availability of affordable energy supplies to meet the needs of current and future Northfield residents in a manner that maximizes energy conservation, maximizes the use of renewable resources, and reinforces traditional land use patterns and municipal development policies.*

### **Policies**

- 1) The availability of electric energy at reasonable cost to local customers through active involvement in the state's formulation of electric utility policy will continue to be ensured, to the extent of the municipalities' abilities.
- 2) Energy efficiency and conservation will be a primary consideration in new municipal construction projects, equipment purchases, and operations. Life cycle costing shall be used by the town in evaluating energy-related capital expenditures as appropriate.
- 3) Programs to assist low-income residents in meeting or reducing energy costs, including weatherization, rehabilitation, and affordable supply programs, will be supported by the town in relation to local need.
- 4) Reliance on single-occupant vehicles should be reduced through:
  - Maintaining, and improving, the local transit program (see Chapter 7);
  - Improvements to the Exit 5 Park & Ride Facility in Williamstown and the creation of a municipal commuter parking facility in or near the Village (see Chapter 7); and
  - Greater pedestrian opportunities, including the construction of the Memorial Park-Northfield Falls bike/pedestrian path and the Dog River path connecting the Village with Norwich University.
- 5) The location of renewable energy generation facilities in the community should be allowed after the community has developed standards to ensure such facilities will have minimal adverse impact to wildlife populations and water quality; will mitigate to the extent possible aesthetic impacts; will not cause a nuisance to the surrounding area (e.g., due to excessive noise) and will not result in undue risk to public health and safety (e.g., through a lack of security or uncontrolled access).

- 6) An adequate land base will be maintained for sustainable forest management through continued stewardship of public forest land, support for current use tax abatement programs for managed woodland, and land use regulations which discourage the fragmentation of large tracts of productive forest.

### ***Tasks***

- 1) Undertake an energy audit of existing buildings, and street light fixtures, to determine whether cost savings could be realized through greater efficiencies. [Staff]
- 2) Review and update as needed existing town policies, bylaws and ordinances to promote energy efficiency and conservation; to protect renewable energy resources and access for their sustainable use; and to support settlement patterns and site designs that minimize energy consumption. [Planning Commission]
- 3) Develop criteria and standards for the development of wind-energy facilities. [Planning Commission]
- 4) Include an assessment of energy efficiency to determine eligibility for weatherization programs in the local housing survey (see Chapter 5).
- 5) Evaluate local knowledge of, and access to, Efficiency Vermont programs to determine if local electric customers could make greater use of available programs. [Electric Department]

## CHAPTER 10. LAND USE

### 10.1 Overview

Historically, land use and development patterns were largely influenced by dominant transportation networks and economic systems. As Northfield's economic base has changed, and transportation networks have become more dispersed, land use patterns have become less dependent upon these factors.

To address modern development pressures in a manner that protects the health and safety of local residents and promotes community interests, such as maintaining a healthy environment and a vibrant economy – the Town and Village have enacted rules and regulations to guide land use and development. A principal purpose of the municipal plan is to provide the foundation for those regulations, and to identify other policies and actions that can be taken to support the future land use plan. This is especially important today, as the Town and Village appear to be poised for a period of renewed growth and new development.

### 10.2 Settlement Patterns

Although significant changes have occurred over the past 100+ years, a citizen of 19<sup>th</sup> century Northfield would likely recognize the community today. The historic settlement pattern – characterized by four village centers built adjacent to power and transportation networks, and surrounded by rural countryside, including scattered homesteads in more accessible stream valleys and limited or no development in rugged, inaccessible upland areas – remains largely intact today. The significant features of that historic pattern are briefly described below.

#### Village Centers

Although linear, automobile-oriented development along the Route 12 corridor has blurred the boundaries of Northfield's historic village centers. The four villages are distinct in character and function, and, in combination, continue to serve as the civic, commercial, cultural, industrial, and residential centers of the community.

Beginning to the north, along the Berlin Boundary, **Northfield Falls** retains much of its historic character. With the exception of a handful of small commercial businesses located along Route 12, the "Falls" is a predominately residential neighborhood. The boundaries of Northfield Falls are fairly well defined. The rural Dog River Valley stretches north toward Riverton. A rugged, ledgey terrain and the Dog River form a physical and visual break from Northfield Village to the south; and steeper terrain, and three covered bridges, forms a clear boundary to the east and west.

**Northfield Village** is the main hub of the community. Centered around Depot Square, Northfield Village functions as the community's downtown and the site of historic residential neighborhoods. The incorporated boundaries of the Village stretch well beyond the downtown and surrounding neighborhoods, encompassing nearly a mile of the Route 12 corridor to the north of the Square, encompassing the community's principal industrial areas and scattered commercial establishments.



The **Center Village**, home to Norwich University, may at first appear to a motorist heading south on Route 12 as an extension of Northfield Village. The physical presence of the University, however, sets this area apart from that Village. With over 1,000 students living on-campus, coupled with surrounding houses and apartment buildings, the population of Center Village may nearly equal that of Northfield Village while school is in session. The land use pattern of Center Village is as much created by the campus setting, with buildings oriented more toward, and relating to one another, and to formal open space (e.g., quads, parade grounds), than to the street as is the case in Northfield Village.

**South Village**, centered around the Interstate 89 access road, is the least developed, and least defined, historic center.

The four villages have all served as historic centers for community growth. They also are well suited to serve as the focus of much of the growth and development anticipated in future years, particularly Northfield Village and the Norwich University Campus in Center Village.

### **Rural Areas**

Historic development in Northfield's rural areas outside of the four villages has primarily consisted of single-family dwellings associated with agriculture and resource-based commercial activities (e.g., sawmills, gravel extraction). Most of this activity occurred in the small valleys formed by major tributaries to the Dog River, including Cox, Union, Stony, and Felchner Brooks, and on the most level land in upland areas. Agriculture has declined in Northfield to the point where no commercial farming operations are presently in operation. Large areas of farmland remain open, however, as residents maintain horses or other livestock for personal use, or keep the land open for aesthetic purposes.

With the decline of agriculture – and the decline of the steam engine and its thirst for fuel wood – came the return of the forest. Forests now cover the vast majority of the total acreage of the town, covering nearly all of the steep hillsides and mountainous land in the Northfield Range and on Turkey Hill and Paine Mountain. Despite all other changes the Town has experienced, the return of the forest may well be the greatest land use change of the past century.

### ***Current Land Use***

Forest land – whether actively managed for timber production or large tracts of wooded land associated with rural-residential uses – is by far the dominant land use in the community, encompassing nearly 87% of the total land area of the Town.

Agricultural and open land is the second most common land use – in terms of total acreage. Although there currently are no working dairy farms, other commercial agricultural enterprises presently exist in Northfield, including but not limited to vegetable, flower, and goat farms. Open land associated with residential uses continues to contribute to the rural character and scenic beauty of many of Northfield's backroads and rural neighborhoods. This sentiment is apparently shared by many local landowners who are responsible for keeping the land open.

The dominant land use in terms of total parcels is for residential purposes. Much of Northfield's residential development is concentrated in village neighborhoods – especially in Northfield Village and Northfield Falls (see Chapter 5). In recent years, however, the majority of the new residential development has occurred outside of the traditional centers. Primarily consisting of single-family homes on large (relative to village) lots, most residential development is expected to continue to occur in areas outside of the villages unless additional opportunities for village scale development, such as including in-fill development and redevelopment of village sites, can be facilitated.

Industrial development encompasses 70 acres, although additional vacant land has been identified for industrial development and is presently served by municipal facilities. Most industrial sites are located in Northfield Village, primarily the Nantanna Mill, Bean Industrial Park, and railroad property west of the downtown.

<b>Table 10.1 Northfield Current Land Use</b>	
<b>Land Use Category</b>	<b>Total Acres</b>
Agriculture/Open Land	3,701.2
Cemetery	24.9
Commercial/Service	45.3
Forest Land	37,331.0
Industrial	70.3
Government/Institutional	10.8
Outdoor Recreation	215.6
Residential	695.5
Roads/Pavement	10.5
Quarries/Gravel Pits	12.1
Schools	108.5
Scrub/Shrub	605.8
Surface Waters	94.7
Wetlands	23.5
Barren/Other	9.8
Source: Central VT Regional Planning Commission	

Commercial land uses are largely found in the downtown and north of the downtown in a low-density linear pattern along Route 12 and, to a limited extent in Northfield Falls. Other scattered commercial activities are located in town, including at the Intersection of Route 12 and Lovers Lane.

Educational uses include the Northfield schools and Norwich University campus, while most other governmental and institutional uses are located in Northfield Village. An estimate of current land use, by general category, is contained in Table 10.1.

### **10.3 Current Land Use Regulation**

The Town and Village have been actively guiding land use and development in the community for several decades through the use of development regulations. The current zoning regulations, adopted in 1986 and subsequently revised, are generally designed to reinforce Northfield's historic settlement pattern of an urban core along the Dog River/Route 12 corridor north from the Berlin Town boundary south to the area surrounding intersections of Route 12 and Route 12A, and Route 12 and Route 64. This core area encompasses each of the four historic villages.

Outside of the urban core, land is generally designated for moderate to low-density residential uses and such land-based uses as agriculture, forestry, and outdoor recreation. Two limited commercial areas are also located outside of the urban core, although neither is served by municipal water or sewer. A brief description of current land use districts is provided in Table 10.2.

**Table 10.2  
Northfield Land Use Districts**

<b>Land Use District: Urban</b>	<b>Purpose</b>	<b>Density</b>
Urban Residential	To allow for a mix of uses, including commercial, mixed residential and institutional, at moderate densities in unincorporated village centers and adjacent areas.	0.25 acre (water & sewer) 0.5 acre (water or sewer) 1.0 acre (no water/sewer)
Low Density Residential	To allow for predominantly single-family residential and public uses, at moderate densities, in portions of the incorporated village that are less accessible and may not be served by public facilities.	0.25 acre (water & sewer) 0.5 acre (water or sewer) 1.0 acre (no water/sewer)
Residential A	To reinforce historic residential neighborhoods and limit uses other than one and two-family dwellings to public facilities and offices.	0.25 acre
Residential B	To support a mix of uses at moderate to high densities within and immediately surrounding Northfield Village's downtown area	0.25 acre
Business (Commercial)	To support a full range of mixed commercial and high density residential uses within the historic downtown and other appropriate locations within the incorporated Village.	0.25 acre
Industrial	To support mixed commercial and manufacturing uses in appropriate locations, including historic industrial sites and planned industrial parks.	0.5 acre
<b>Land Use District: Rural</b>		
Industrial (Commercial)	To allow for the continuation, and careful conversion, of industrial uses in a portion of Town historically used for such purposes.	0.5 acre (water or sewer) 1.0 acre (no water/sewer)
Mill Hill Industrial	To provide for an area capable of accommodating concentrated commercial and industrial uses related to the area's proximity to I-89.	1 acre
Rural Residential	To allow for low agriculture, forestry and moderate to low density residential development in rural areas of Town served by Town roads.	3 acre (<1/4 mile of road) 5 acre (other)
Secondary Agricultural	To encourage agricultural and forestry uses on land characterized by primary agricultural soils and traditionally used for farming, while allowing low density residential uses.	5 acres
Conservation & Forestry	To limit development in upland areas (generally elevations of 1,800' and above) characterized by steep slopes, thin soils and poor access, and to allow forestry and low-density residential development in such areas.	10 acres
Recreation	To maintain areas dedicated to outdoor recreation uses.	5 acres

## **Development Standards**

Northfield's current zoning regulations regulate the types of uses that are allowed in various zoning districts, the densities in which they are allowed (expressed as the number of units/principal uses per acre), and the dimensional standards within each district (e.g., minimum setbacks, maximum height). Few regulations regarding the overall pattern of development, or to achieve other district purposes are included (e.g., maintain agricultural land, avoid development of steep slopes).

The Town also does not presently regulate land subdivision. As the community grows – especially as more residential development occurs in the rural residential, secondary agriculture and conservation and forestry districts – regulating land subdivision could help to achieve many of those district purposes while ensuring the orderly layout of new development and coordinated extension of facilities and roads.

Within the urban core, site development standards could address how new buildings and associated improvements (e.g., lighting, parking, sidewalks) relate with the surrounding area, enhance streetscapes, and contribute to the pedestrian-scale, urban fabric of the community. This is especially important as in-fill development and redevelopment occurs in and around the downtown and along the Route 12 corridor.

Options for improving Northfield's land use and development regulations to achieve the assorted policies of this plan, including those related to economic development, housing, transportation, and the protection of natural and cultural features, are described in the following section.

## ***10.4 Future Land Use***

### **“Urban Core” Growth Center**

Northfield's historic settlement pattern of compact villages surrounded by rural countryside has served the community well for nearly 220 years and should continue to support a vital and diverse community. Although concentrating development in village, or “growth,” centers is not as important for economic and transportation purposes as it once was, supporting growth centers is good public policy in that it:

- Is cost-effective by limiting expensive facility extensions into un-served areas,
- Maintains the community's historic character,
- Is an efficient use of land and resources,
- Promotes transportation alternatives, thereby conserving energy and ensuring that all citizens have access to services and employment,
- Promotes economic vitality, and
- Avoids social isolation and fosters a healthy, safe community.

The urban core as presently defined should continue to accommodate a majority of the community's residential growth and nearly all of its commercial and industrial growth. Existing land use regulations could, however, better achieve this objective – and strengthen existing settlement patterns – through the following:

- Designation of a central business district, including but not necessarily limited to the historic downtown around Depot Square and adjacent land. Such a district could correspond to a designated downtown district (see Chapter 6), and should include dimensional and other site design standards that reflect existing patterns. Current setbacks, building coverage and on-site parking requirements discourage a high density of development and likely cause many important buildings that contribute to the character of the downtown to be non-conforming.
- Maintenance of the Industrial District by carefully considering the allowed uses to ensure that adequate space is available for manufacturing and related business and that industrial districts are not dominated by retail uses that could detract from the downtown or existing shopping centers.
- Evaluation of the uses allowed in the Urban Residential District to determine whether all presently allowed commercial uses – including retail – are appropriate throughout the district, or whether a greater focus on residential uses could help channel anticipated residential development into the urban core.
- Review of Planned Unit Development (PUD) provisions to ensure that they are practical, provide a reasonable incentive to applicants to seek application, and will allow for attractive, high quality master-planned development in appropriate areas. Consideration should also be given to developing specific PUD standards to address different development contexts (e.g., university campus, industrial park, downtown development).

## **Rural Character**

Land use and development is currently regulated with the intent to maintain the rural character of the countryside that surrounds – and stands in contrast to – the village centers. As the community grows, it is anticipated that much of the pressure for residential development will focus on these areas due to the availability of land, transportation technology that allows access to remote locations (e.g., prevalence of four-wheel drive vehicles), and a desire of many homebuyers for a rural lifestyle. Methods to achieve this goal while accommodating anticipated residential development include:

- Review the effectiveness of the secondary agriculture district. While established to maintain agricultural land, the only significant difference from the rural residential district is density (the rural residential district allows 3 acre lots within ¼ mile of town roads, compared with a 5 acre minimum lot size in the secondary agriculture district).
- Review of the Conservation and Forestry District to determine whether additional standards are needed to achieve the purpose of the district, including standards to address development on steep slopes and associated erosion and runoff.
- Consider (in addition, or as an alternative to, the options described above) the adoption of subdivision regulations to guide emerging settlement patterns in a way that reinforces the objectives of each respective zoning district, and ensures that development patterns, infrastructure and roads are extended in an orderly, coordinated manner.

- Review industrial and commercial districts and consider whether uses allowed within these districts are best suited for locations within the urban core where municipal sewer and water facilities presently exist.
- Review Planned Unit Development (PUD) provisions and consider whether they adequately address rural residential land use concerns, and whether they could be strengthened to foster clustered residential development which encourages clustering and the preservation of open space.

## **10.5 Land Use Goals, Policies & Tasks**

### **Goal**

To maintain the Town and Village's historic settlement pattern while managing development in a manner to further the other goals and policies of this Plan.

### **Policies**

- 1) Development will be encouraged, through land use regulations and related policies of this Plan, to locate within the urban core, defined as the land use districts identified in Table 10.2 and depicted on the Land Use Districts Map (which comprises this Plan's future land use map), and to accommodate land uses outside this core in a manner that maintains those areas' natural resources and rural character.
- 2) Infrastructure and transportation improvements will be coordinated with land use policies to ensure that growth and development occurs at a rate and scale that does not overburden community facilities or services or undermine the community's historic character.
- 3) Northfield Village's role as the cultural, civic, and industrial center for the community should continue to be supported.
- 4) Development in traditional village settings should be designed to reflect the traditional, pedestrian-scale of development, maintain an aesthetic streetscape, and contribute to the historic character and pattern of development.
- 5) The downtown area's central commercial, civic and cultural community function will be reinforced through a concentrated mix of land uses at high densities and an urban pattern of development.
- 6) The vitality of Norwich University should be supported in a manner that enhances the attractive campus setting, efficiently uses existing land, and discourages encroachment into nearby residential neighborhoods.
- 7) The historic heritage of Northfield Falls and neighborhoods in Northfield Village should be maintained while accommodating compatible commercial uses that do not detract from the surrounding residential character.

- 8) Designated industrial facilities and land should be developed and/or occupied before designating new areas for industrial development.
- 9) Development in the Conservation and Forestry District should be carefully controlled in order to avoid adverse impacts to water quality from erosion and stormwater runoff, and to avoid the fragmentation of wildlife habitat.
- 10) Residential development and associated land subdivision in rural districts should ensure that it occurs in a manner that does not result in an undue adverse impact to natural and cultural resources described in Chapter 2.
- 11) The clustering of development and preservation of open space associated with residential subdivisions outside of the urban core is strongly encouraged.
- 12) Land use regulations shall be administered in a fair, efficient, and impartial manner.

### ***Tasks***

- 1) Undertake a review of the current zoning regulations and consider making revisions outlined in Section 10.4 of this chapter (such revisions are not referenced as a policy of this Plan, rather they are a guideline for community consideration after Plan adoption). [Planning Commission]
- 2) Consider regulatory incentives for the provision of affordable housing and the preservation of historic resources, as outlined in Chapters 2 and 5 of this Plan. [Planning Commission]
- 3) Consider adopting subdivision regulations to better guide settlement patterns and the extension of facilities. [Planning Commission]
- 4) Monitor development activity and actively represent the Town before state regulatory proceedings (e.g., Act 250) to ensure that determinations of a proposed project's compliance with this plan are accurate and reflect community consensus. [Planning Commission, Selectmen, Staff]
- 5) Maintain a database of recent development and permit trends on an annual basis. [Staff]

## **CHAPTER 11. IMPLEMENTATION**

### ***11.1 Overview***

Community change is the result of countless individual and collective decisions and actions of citizens, businesses, and public officials. When those decisions and actions are based on a shared vision of the future, a community can achieve that vision. Previous chapters of this plan set forth the planning background, and the goals for each plan element which, taken together, constitute a vision for Northfield's future. Achieving those goals will require the cooperation of many people and public and private agencies, using a variety of mechanisms over the next five, ten and twenty years. This section briefly describes the different tools and programs available to implement the plan.

### ***11.2 Plan Adoption***

Adoption by the Northfield Boards of Town Selectmen and Village Trustees, pursuant to the procedures established in 24 V.S.A. Chapter 117 §4384 and §4385, is the first step in putting the plan into action. Through adoption, the Selectmen and Trustees accept this document as the guide for future physical growth and change in the Town and Village.

### ***11.3 Central Vermont Regional Planning Commission (CVRPC) Approval***

Approval by the CVRPC allows for greater regional planning and cooperation among towns in addressing mutual problems and challenges, maintains the Town and Village's eligibility for municipal planning funds as well as its authority to enact certain programs (e.g., impact fees). Once the plan is approved by the Town Selectmen and Village Trustees, it should be submitted to CVRPC for regional approval.

### ***11.4 Ongoing Planning***

Ongoing planning is one of the most important elements of the process of keeping a town plan up to date and relevant. The Planning Commission, Selectmen, Trustees and Town and Village Staff should use the plan on an ongoing basis to ensure that its goals and policies are integrated in day-to-day decisions concerning public facilities and services, transportation, land use, and development in the town.

The Planning Commission is responsible for maintaining and amending the plan. As conditions change and new information becomes available, amendments may be needed to keep the plan current. Special studies, public forums to consider specific issues, and regular meetings between local boards are effective ways to sustain an ongoing planning process. The plan automatically expires five years from adoption. Before the Plan expires, it should be thoroughly reviewed, and information on which the plan is based should be updated.



## ***11.5 Municipal Land Use & Development Regulations***

This plan should serve as the blueprint and policy guide for future revisions to the Northfield Zoning Regulations. Several suggestions for revisions, or for additional study, were described in various chapters of the plan, most importantly Chapter 10. In addition to consideration of revisions to the current zoning regulations, it is recommended in Chapter 10 that consideration be given to adopting subdivision regulations.

## ***11.6 Other Municipal Policies & Programs***

Local land use regulations are not the only means with which Northfield can implement various sections of this plan. Other ordinances and policies can also serve to carry out policies and strategies described in previous chapters. For example, the municipal sewer allocation policy and local road policies were both identified as important tools to implement various policies of the Plan. Throughout the plan are several specific references to appropriate local implementation policies, as well as guidance to regional organizations and state agencies as to how their programs can best meet local needs and ensure consistency with local policies.

## ***11.7 State Permit Procedures***

Presently, any commercial development involving one or more acres of land, and any residential development or subdivision resulting in the creation of 6 or more dwelling units or lots, requires Act 250 approval. Should the town enact subdivision regulations, in addition to having zoning and a town plan in place, the threshold triggering Act 250 review would increase to 10 acres and 10 dwelling units, respectively.

One of the 10 criteria that projects must meet to comply with Act 250 is that the development be in conformance with the town plan. In the case of Northfield, conformance should be determined by whether the proposed development is consistent with specific policies listed at the end of chapters 2-10. If a project is not consistent with a specific policy, it should be determined to be not in conformance with the plan.

Both the Planning Commission and Selectboard have party status to participate in all Act 250 review processes. Both bodies should monitor project applications, which are reported to the town by the District 5 Environmental Commission, and participate in those processes whenever appropriate. Other state and federal regulatory processes, for example Section 248 (related to public energy facilities) and the National Environmental Protection Act (related to federally funded projects) also provide opportunity for local participation and review against the policies set forth in this plan.

## ***11.8 Public Spending***

Like most small Vermont towns, Northfield has a limited capacity to raise and spend tax dollars on local government initiatives. Spending decisions are among the most important means with which municipal government can implement the plan. Fortunately, the Town and Village have a history of planning for major expenditures through the annual preparation of a capital improvement plan and program. Maintaining the capital budgeting process is fiscally responsible, and is a requirement should the community choose to take advantage of certain local and state programs (e.g., downtown designation, impact fees).

In addition, Northfield has proven adept at securing assistance for specific projects through public and private grant sources. The development of this plan, for example, was funded through the Vermont Municipal Planning Grant Program. The Town has been quite successful competing for a variety of VTrans assistance programs, and as this plan is being completed the community is also finalizing a feasibility study of possible uses of the Gray Building that was funded through a Vermont Community Development Grant. Staying aware of grant programs as they become available, and being prepared to submit applications that further the policies of this plan, should be a priority for all local boards.

Finally, capital projects and facilities are not the only important consideration related to public spending. A key policy and task of this plan is to expand the local community and economic development capacity through the creation of a position of Community Development Director. Over the long term, it is anticipated that such a position will be a good public investment in that a local person and/or entity focused on promoting economic development in Northfield will reap many positive benefits, including growth in the local grand list and job base.

Finally, a key and significant policy and task of this plan is the creation of a position of Community Development Director. We urge that this be considered as important as capital projects and facilities relative to public spending; given such recent events as (1) the new National Guard Armory and its large influx of both short-term and long-term visitors and (2) the creation of the National Center for the study of Counter-terrorism and Cyber-crime, with a projection of approximately 200 new families to reside in Northfield and the surrounding area. It is imperative that the municipality be pro-active. Thus, the creation of this position will be a good public investment in that a local person and/or entity focused on the promotion of economic development in Northfield will reap many positive benefits, including growth in the local grand list and job base. Clearly in the final analysis this position will more than pay for itself.

## ***11.9 Implementation Tasks***

Most of the tools summarized above are described in greater detail elsewhere in the plan. At the end of each preceding chapter, implementation tasks list specific actions that can be undertaken by one or more specified bodies. These form the basis of the Planning Commission's action plan in the coming years, and should be periodically reviewed as a measure of the Commission's success implementing the plan.